



Epistle to the Reader.

Courteous Reader,

THE Work we here undertake is that of promoting profitable Truths in the World, beginning with the least Essays, and persisting until we conclude in that, wherein the Happiness of this Nation's Inhabitants chiefly consists, *sc. Health, Riches, and Long Life*; for be assured, That he who intends to come to the Top of the Ladder must not begin where he should end; but first take the lowermost Range, and so proceed gradually until he hath raised himself to the Pinnacle of Fame, which is only set up for those, that were Labourers in erecting the Temple of Truth, and

not for such, who never laid a Foundation Stone, nor indeed know any Ground to set their Building or Ladder on; therefore from such we cannot expect any thing more than what their Airy Notions will lead them to, of which there be as many different ones as there are Constitutions, nay I had almost said Faces: So that at this rate we might justly question how we should know Truth; seeing that most Men have their different Opinions concerning the same, and so accordingly state their Doctrines; so that from the great multiplicity of Notions, it is very difficult to find the centre thereof.

But seeing Demonstration is that, which undeniably solves the Question; we shall therefore recommend it as a sure *Basis*, for all the Judicious Inquirers to erect on; and in and among many profitable Arts, we shall give our Experience and Observation according to the same, concerning that of Brewing. For the right ordering of those things, which we take into our Bodies, whether Meats, Drinks

Drinks or others, is that wherein the Health of Man in great part consists ; for if these are so prepared, as to remain in their nauseous, austere Qualities, they soon Corrupt, Putrify and Mould, and being taken in, must by consequence leave in the Bodies some Stains of the same, for being constantly taken as Nourishment, they will soon demonstrate their evil effects, by making a Crasy and Diseasy Body ; but on the contrary these being so prepared, as to be in themselves Durable, Brisk, and internally Healthful, must contribute of the Same to those that are thereby nourished : Now Experience shews us, that *Decoction* and *Fermentation* is that which brings Maturity and Ripeness unto Beings ; for Example, take any of the most Crude and Raw Fruits, yet are they so macerated by Decoction, as to be soon brought to a nourishing Quality ; for the Wild and Crude *Gass* is by Decoction sent off, and the generous Sulphurs the nearer Concatinated ; so is it here in the Art of Browing, for was not the Grain first

moistened, heated and fermented, it would not admit of its Generous, Internal and Friendly Nature to come into the Liquors, neither could it be so fully obtained, but by the right Preparation, *sc.* Decoction of the Liquor or *Mensurum*, which must extract the same, that being the first degree to exaltation; in which Action the true Internal Tinctures are obtained: Now Tincture demonstrates Maturity and Health, being endued with the most lively Vertues, as may be seen by that of the Blood; and it is from this, that the Oak, Cedar and Gold receive their Durability, as may be demonstrated by their Sulphurs separated; but seeing this is largely shewn in our *Spagyrick Philosophy asserted*, we shall omit it here, and proceed to these following Considerations, whereby the Drift of our Intention may be the better conceived, and the Truth of our Doctrines confirmed.

The first is the Action of the *General Spirit*, which is in perpetual Motion and Circulation, in order to convey

vey Life unto Being : Now according to the Nature of the *Matrix*, and the Internal Decoction of the Form, the multiplicity of Natures do proceed, and by the various Inbibitions, which is a Decoction and Evaporation of the same, comes the various Degrees of Exaltation, without which there could be no Durability : Now that things may be so prepared, as to be made more apt to produce the greater increase, is plain by the Cuntry Man's Dinging and Manuring his Land, and the burning up of Stubble and Gause, by which the Crude Sulphurs are destroyed, and the Internal Saline Vertues manifested, which greedily attract the *Universal Spirit*, being opened for Nature the freelier to work therein ; therefore is the Dinging the Land with Calx and Ashes wonderfully Philosophical, and we know such a way thereby, as to better the Land 10 per Cent.

And again we see, That Nature makes various Degrees of Concoction, by each of which the Nourishing Vertues are bettered : You have an

Example of this in Man ; for by the first Concoction the Food is made Chyle, by a higher one, Blood, and as it is inspired with the Vital Flame so doth the pure and truly Sublime Spirits rarify themselves for the Vital Nourishment, which indeed is the highest degree of Separation and Concoction, whereby the seed is spiritualized and made the *Quintessence* of all, to remain in its proper Vessels for another Generation : Therefore we will state the Action of Concoction, as it naturally stands, to be threefold : By the First things are made Pure ; by the Second more Pure ; and by the Third the Purest of all ; therefore do we lay down Decoction and Fermentation, as the only Door to Perfection, both in Nature and Art, whatever unadvised Men may say to the contrary.

Again, another principal one is the Excellency, Fragrancy and Durability of these Liquors, which Nature so bountifully furnishes us withal in those Climates, where the Sun hath sufficiency of Heat to exhilarate and
warm

warm the Fruits, and fully to extract from thence their superfluous Moisture; their Durable, Saline and Homogeneous Parts being radically united by Decoction, as is evident in that of *Spanish Wine*, seeing it admits of no Argel; and it is by these Degrees of Warmth in Decoction, that its generous and balsamick Nature proceeds, so as to make glad the Heart of Man. And furthermore we see, That few Vegetables or Minerals, without Decoction or Fusion will give forth their prestant Vigour or Form, by which their divided Parts are collected.

So then this only remains at this Time, That gentle Decoction no way destroys nor evaporates the Internal and Friendly Vertues, but rather exalts the same, even in the ripest Fruits, as is plainly to be demonstrated by New Wine or Beer, being concentrated by Evaporation of its Moisture, which by a due quantity of Liquor may be made into Beer or Wine again, as the famous *Radolphus Glanber* shews, which is confirmed

by our daily Experience; and that Decoction adds Substantial Vertues to Beings, both in the *Animal*, *Vegetable* and *Mineral* Kingdoms, as by a multitude of Examples we can at any Time demonstrate, therefore now omitted, Brevity being here designed.

We therefore from hence recommend this *True Art of Brewing*, and the excellency of Liquors thereby prepared, really proceeding from Decoction and Fermentation, by which they are rendred capable of Warming, Strengthening and Nourishing our Bodies, and also of its durability too; for Experience shews us, That Beer ill brewed will not admit of Transportation, for it soon takes a Ferment by the Sea, and so sours and ropes: When on the contrary well brewed Beer may be transported to the *East Indies*; for having a Body and Ripeness withal, the Ferment of the Sea exalts it so, that it becomes in the end like Mum in comparison to the former, and will remain in its full Goodness many Years; and being
Distilled,

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Distilled, will give the most friendly Spirit, that can be by the Art of Man prepared; for its *Essential Sulphur* is radically united and exalted: Therefore (*ye noble English Hearts*) accept of Truth, though by the most despisable Instrument delivered, for this is that which shall stand us all most in stead in the Day of Tryal; for though the Winds beat and the Storms ascend, yet shall its Foundation remain firm, as being built upon a sure Rock; when as those founded upon the Sands shall not be able to bear the Storm or Tempest; therefore that our Foundation may be rightly established is the Desire of him who recommends his Labours to your candid Acceptance, and himself to the Protection of Almighty God, who hath hitherto preserv'd him in a Perverse Generation from falling into the Pit of Error; which that you may all be preserved from, is the Desire of him, who is,

*Your sincere Friend,
in all Christian Love,*

From the *Academia Spagyrica Nova.*

W. P. Worth.

The General Contents of
the Chapters of this
Book.

C H A P. I.

IN which we treat of the *Art* in general, as also of the right way of *Manuring Land*, and the *Sowing and Planting thereof*, for the greatest *Advantage*, even 10. per cent.

C H A P. II.

In which we treat of the right way of Brewing Beer and Ale in general, so as to make them the most Durable and Vertuous.

C H A P.

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CHAP. III.

*In which we treat concerning the way
used in Brewing, in order for Dis-
tillation.*

CHAP. IV.

*In which we treat of Fermentation, the
ordering of the Vessels, the manner of
Tunning, and some necessary Rules,
whereby the Beer may be long pre-
served.*

CHAP. V.

*Wherein we treat of Clearing of Beer,
and Restoring such as is Sour and
Decayed, so as to render it Drinkable.*

CHAP. VI.

*In which we treat of Making several
Physical Drinks, together with their
Vertues and Use; shewing the right
way of Bottling Beer.*

POSTSCRIPT.

*Containing several Useful Considerati-
ons concerning Thames-Water, &c.*
The

The particular Contents
or Chief Heads of the
Matter contained in
this Book.

O F the Original of Brewing	1
From whence the Making of Malt had its Original	2
The way of Dressing and Manuring Land for the greatest encrease	4
How Cyder, Wine and other Lignors might become very plenty in Eng- land	10
Beer being not well boyled soon Putrifies and Ropes	13 and 20
The Office of Water as the Menstruum of the World	15
The	

The crackling or sighing of the Water is nothing else but the separating the WildGass, which must be separated before the Medicinal Vertues can be obtained 16 and 45

The Right and Natural way of Preparing the Liquor or Menstruum, so as to extract the full Vertue of the Grain 18

How Water, being Cold and Moist is altered into a more Hot and moist Nature, by the Addition of Vegetables in Decoction 19

The Air rarifies and gives Spiritual Life to Beings 21

How Water is purged by Sand 22

How Water assumes to it self the divers Mineral Tasts 23

What those Qualities are by which Waters are made more Salusiferous 24

How that Diversities of Water will cause Diversity in Beer, made from one and the same Grain 26

Rules to know how far your Water will bear Decoction, so as to make good Beer 27

The properest Time to take Water in for Brewing 28

The

*The wild Gass in Water being not sepe-
rated, is that which not only causes
Beer to Corrupt, Rope and Sour, but
also causes most Diseases in the Body,
even Scurvy, Gout and Stone, &c.*

29

*Diseases have their first Original in the
Spirit*

33

*That the Gass remains in Beer unde-
cocted*

34

*Tincture manifests Health, and cures
many Diseases*

35

*That no Disease proceeds from well-boyl'd
Beer*

36

*Decoction and Fermentation is the Foun-
dation of Nature and Art*

39

*The Concentration of Beer for Transpor-
tation*

43

*The Extract of Malt is the Mummial
Balsam thereof*

44

That the Gass is the Egyptian Dragon

47

How Salt Waters are made Fresh

49

How Nauceom Waters are made Good

51

The Author's way of Brewing

52

*How to brew Double Beer and Ale, and
their Excellency*

54

The way of Brewing for Distillation

56

What

What Quantities may be extracted from a Quarter of Malt	61
A good Drink made from Molasses	62
The best Mum from malted Wheat	63
A good Drink made from Oats, Beans, Buck-wheat, or Liquor of Peech	ibid.
That Wormwood may well supply the place of Hops	66
The Signature of Herbs must be minded	68
The Author's Recommendation of Spagy- rical Medicines for the Use of the Diseased	72
The various Uses of Signatures	73
The Preparation of the Quintessence of Malt, and its Use, for the bettering of Beer	79
The Office of Fermentation	82
The Season of the Year must be minded for setting of Tuns in Fermentation	86
Glauber's Sal Mirabilis, or our Sal Pa- naristos makes an Artificial Fermenta- tion without Yeast	89
The way to cleanse the Vessels, and sweeten those that are Fusty	90
The old Error concerning the Sap in Trees, corrected, by shewing that it doth not return to the Root, nor congeal in	

()

in the Tree as Sap, but is really converted into the more essential Parts of the Tree	93
The Use of an Hippocrates's Sleeve, or a Flannel Bag, in cleansing Beer and Ale	105
The way to Clear and Refine Beer	107
The way to make Sour Beer drinkable, and to give it durable Qualities	109
How to make several Physical Drinks	111
A Physical Ale against the Scurvey, Dropsy and other Diseases	115
The best way of Bottling Beer and Ale	ibid.
Considerations on the Thame's-Water	117
Some convenient Additions to Wormwood Drink	128

Books Printed for John Taylor at
the Ship in St. Paul's Church-
Yard.

M*edicina Practica*: Or, Practical
Physick: Shewing the Method
of Curing the most Usual Diseases
happening to *Human Bodies*. As all
Sorts of Aches, Pains, Apoplexies,
Agues, Bleeding, Fluxes, Gripings,
Wind, Shortness of Breath, Diseases
of the Brest and Lungs, Abortion, want
of Appetite, Loss of the Use of Limbs,
Cholick, or Belly-ach, Apostems,
Thrushes, Quinsies, Deafness, Bubo's,
Cachexia, Stone in the Reins, and
Stone in the Bladder: With the Pre-
paration of the *Præcipiolum*, or Uni-
versal Medicine of *Paracelsus*. To
which is added, The Philosophick
Works of *Hermes Trismegistus*, *Kalid
Persicus*, *Geber Arabs*, *Artesius Longa-
vum*, *Nicholas Flammel*, *Roger Bacon*,
and *George Ripley*; all translated out of
the best *Latin* Editions, into *English*,
and carefully Claused, or divided into
Chapters and Sections, for the more
Pleasant Reading, and Easier Under-
standing

standing of those Authors. Together with a singular Comment upon the first Book of *Hermes*, the most Ancient Philosophers: The whole compleated in three Books, by *William Salmon*, Professor of Physick, living at the *Blue Ball* by the *Ditchside*, near *Holborn-Bridg*.

The French Gardiner, instructing how to Cultivate all sorts of Herbs for the Garden; an accomplish'd Piece: Translated into English by *J. Evelyn*, Fellow of the Royal Society.

An Exact Journal of the Victories obtained by their Majesties Forces in *Ireland*, under the Command of General *Ginkle*, to the Surrender of *Limerick*.

Mr. *Boyle's* Works, viz. 1. Of Nature. 2. Final Causes. 3. Martyrdom of *Theodora* and *Dydimus*. 4. Christian Virtuoso. 5. *Experimenta & Observationes Physicae*, being a Collection of Natural and Physical Experiments; with a Collection of Strange Reports.

Mr. *Boyle's* Funerall Sermon; preached by the Bishop of *Sarum*: As also his Elegy.

CHAP.

C H A P. I.

In which we treat of the Art in General, as also of the right way of Manuring Land, and the Sowing and Planting thereof for its greatest Improvement.

IN this Chapter we shall treat of *Art* in general, and principally of the Office of Water, and Manuring of Land, together with the Definition of Brewing: Brewing, according to the best Sense, may be understood to be *The Art of making Liquors or Drink*; and that by Decoction, which is properly to be understood Evaporation, not of the whole Substance, but only of the heterogeneous Particles, and a Concatination or linking together of the more

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homogeneous ones, so as to make them the more generous and friendly to Human Nature.

Now, as to the Invention of this Art, 'tis very Ancient, and hath a Physical Root, from the Word *Coquo*, to boyle, or to Infuse or Digest *Species* in Water, thereby to extract their Vertues, and make them Medicinal; such are the Decoctions generally prescribed: And we make no doubt, but that of making Beer was a Physical Invention, though not prescribed, nor perhaps known to the Ancients, although one of late says, 'Tis not the smallest part of *Chymistry*, when indeed it hath not the least adherance to the Word [*Chymistry*] which had its Original from *Alchymidus*, a Jew, who had the Art of Transmutation, thence called *Alchymy* or *Chymistry*; what the Word signifies is plainly shewn in the Authority of Language, *sc.* to be a dissolving of Metals, and an extracting of their Quintessence: When as that of making Malt is only an artificial Fermentation, in order to manifest the *Calidum innatum*: And why
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any should say, That it had its first Invention in *Egypt*, I cannot conceive, seeing the Art of making Beer hath not been of so long continuance, and that *Basilus*, that famous Philosopher, quotes it not from *Egypt* or *Greece*, but cites and describes the making of Malt from *England*, as may be seen in his *Triumphant Chariot of Antimony*; and therefore *England* may doubtless have the Honour of being the first Authors of making Beer and Ale, and therefore let her continue the same, in making the best, seeing *Europe* affords not better Grain, nor better Water to Brew, Decoct or Extract the Vertue withal. Now although the Art of Decoctiion is ancient, whence the Art of Brewing had its Original, yet do we not say that this is so too; but it is no matter whence it did proceed, or how old the Invention is, seeing it is so useful an one, that thereby Drinks are made more generous, than they would by Nature be; the better the Grain is, and the more kindly the Malt is made, so as to be Malt indeed, the better will the Beer

and Ale spend; and seeing all these are necessary to be touch'd at, we shall begin first with the Foundation thereof, *sc.* the Manuring of Land, seeing it must be from Good Land that Good Grain must proceed, and consequently the most Plentiful Crop.

The way of Dressing and Manuring Land, which hitherto hath been used in *England*, is that of burning up the Stubble and Gause, breaking and mixing the Ashes thereof with the Earth; as also a Fattening and Supplying of Land with Horse or Cowdung, Fat Marle, Chalk, and more principally Lime; and of later Years, for Cold and Moist Ground, Soot is highly esteemed and much used, and not without good Reason, seeing it contains a Nourishing Fatness: Now from these we shall make our Observations, what that is in all or any of these, that Warms, Supplies and Nourishes the Earth with Food, answerable to that, which is daily wasted in Multiplication and Vegetation; and though the Earth it self, as it is a *Passive Domicil* or *Matrix* of Generation

ration doth not deminish one Grain either in Ponderosity or Corporality, as *Helmont* hath demonstrated by calcin'd Earth, in which a young Tree was set, and after its being grown to a considerable height and Stature, the Earth still remained the same in *pondus* as before; yet in all this it contains an *Invisible Spirit*, which is exhausted; and without a daily Supply, as well from Celestials as Terrestrials, the *Archeius*, the red Man, the Servant of Nature, could not have any Matter to work on; neither could the Sperm be mixed or sublimed to the *Superficies* of the Earth for the nourishing of Vegetable Growths; and therefore is not the Earth improperly called *Magnesia*, seeing it so greedily attracts the invisible oily Life from Rains and Dews, and that joyning to the Fatness of the Earth, makes a great quantity of *Salt Nitre* by the Heat of the Sun, and the greater Quantity of *Salt Niter* there is in the Earth, by consequence the greater quantity of Corn grows and increases, this, as

Sandivogius says, is done daily: So that 'tis the fatter Saline and Sulphurous Qualities in the Earth that nourish all things; and, as we have said in our *Britannean Magazine of Wines*, Lime by the Acid Juice of Vegetables, made as *Glauber* prescribes, will produce great Quantities of *Niter*; and therefore of wonderful and principal Service for manuring of Barren Lands; and dung of Cows and Horses, by the several Retrogradations of Nature, produces the same effect, for great quantities of *Niter* are found where such Fatness abounds; and therefore, I say, That Land may by Art be yet more enriched ten *per Cent.* for seeing Nature makes use of these, Art may in great sufficiency supply her, by adding such things as will increase the Central *Sal Niter*; which the Lime made from Muscles, Cockles or other Sea-Shells abundantly doth; as also the Sulphurous Spirit of Stone-Cole, but more principally the Sulphurous Spirit of the *General Magnesia*, which in plain Terms is *Sand Drift* distilled and

and burn'd to Ashes, and those imbibed and moistened with the Mummial Life, which being mixed with the Ground will abundantly fertilize the same, not only to increase its Goodness ten *per Cent.* but also to cause decaying Growths to Renew and vegetate afresh; and this may be had in great Quantity, sufficient to supply, seeing the Subject in *England* doth so plentifully abound: And that to the present bettering thereof, seeing Art prepares it ready for Nature to work in, whenas things of a more inferior Order, as Lime, Dung, &c. must be waited on, till Nature hath prepared the nourishing Vertues that must proceed there-from; for Calx is too dry, and by its great Heat will burn up many tender Growths, as may be seen, where 'tis used in Gardens, for it immediately burns up the very Root of the Flowers; but after it hath layn to mellow, and is fatted with the Sulphurous Quality, then doth it wonderfully cause increase, and better in the

second or third Year than the first; and why then may not Art prepare and imbibe these Calxes with a Sulphur, fit for Nature to work in, seeing this is all that she doth by length of Time? Again, in Dung, that Rich and Profitable Soyl, in that it abounds with such great Quantities of Sulphurous and Excrementous Fatness, yet the Urinous Spirits therein contained must be exhaled or drained away, or else 'twill prove as destructive to Young Growths as fresh Calx; for Experience in my own Garden hath taught me, that Dung new made hath destroyed and caused several famous Flowers to die, perish and decay, whenas that of Age hath caused them to increase in Largeness and Beauty; therefore do they in *Holland* let their Dung rot, putrifie and corrupt, and thoroughly die, as being put in such Places where the Urinous Spirits may freely run therefrom: And therefore seeing that it is the Sulphurous Saline and Balsamick Qualities, which only nourish; I advise, That such may
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be searched after and used more generally, and especially by such as will be curious in the Improvement of their Lands ; and if the Inhabitants will come to the Use of the Shells, then let them also use the Acid Juice of Vegetables therewith, or in place thereof Soot, gently dried on a Kill, and they shall not fail of having that Increase, which will abundantly out-pay their Cost and Labour, for by the Variation of the Grain you may yearly expect a Crop. Also it is observable, That Orchards and Vinyards so ordered, as well as Fields, will not only bring forth the Kernel into a Shrub, but also yield the best Soyl for raising of Nurseries, as also for dunging Orchards and Gardens ; for though Earth, and Dung, and Fat Sandy Mold mixt together is good, yet not comparable to the Calx, prepared as prescribed ; and seeing that Land which is proper for Corn, Rie, Barley, Oats and Beans, is also most proper for Orchards. Why may we not improve that Waste Land of Divisions which are in Fields,

wherein the Land-mark is set, and make the same of different Fruits, that so those excellent Liquors of Cyder and Perry may as plentifully abound in *England* as Wines in many Foreign Parts, or Orange-trees in *Italy*. But here the Landlord may object and say, This will not only encourage Thieves, but also cause our Land to be trod and marred: But in answer to this we say, That the universality of Consent in the general Use thereof, would make Fruit so common, as not to be coveted with a thievish Eye. And again, a Law might be provided, as a Punishment for any Offence or Breach of this kind: Seeing it is so useful, that this may serve well as a Fence for the Corn against many a bitter Storm: And if the Trees are kept well pruned, and not to spread, their Dropings can be no ways detrimental to the Grain, seeing we have seen Examples of the like Nature in Foreign Parts: This may not seem unpracticable, though strange to many, but seeing Orchards, Vineyards,
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and their Improvements, are treated of in their proper Place, I shall omit it here, and at present leave every Man with that Opinion, which best pleases himself; seeing our whole Drift and Design is only and alone to promote that which the great and noble Hearts might so encourage, as to make *Britain* become the Glory of all the *European* Parts: Nay, I might have said the Garden of the World for Plenty and Riches, being in it self so healthful and well-tempered a Climate; but of this more at large in the other Volumes of our *Historia nova de Britanniae Gloria interna & Thesauro Celato*; now the Grains and Fruit being sown and ripened, we shall come to touch at that, whereby Art advances the same to a more prestant Vigour: 'Tis said in our *Britannian Magazine of Wines*, That all Fruits must be gathered in dry Weather, otherwise they'll soon grow musty and rot. And again, all Fruits being taken from their Stems, are to lye on Heaps to sweat and dry again, and so they become more ripe and fit
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for the Press, and will yield abundantly the more generous Liquors. And again, all Grain must receive an Internal Ferment by being malted or melted by a kindly wetting or yoting thereof, and then lying in Heaps to heat, and then flowered and constantly turned; and 'tis observable, that the Fermentation must not be too violent, lest it run to Beard and Husk, and after all it must be Killed and Dried; in which Preparation all the superfluous Moisture is evaporated, and its Substance rendred durable; for otherwise 'twould be subject to corrupt and change: And seeing we have proceeded thus far, in preparing and fitting the Grain, by a fermentative Motion, and the Action of Heat, why may not the same be as really necessary in Decocting and Brewing of Beer, Ale, and other Liquors, seeing, that, as we have said in the *Preface*, is so really necessary, in order to make them more generous and agreeable to Human Bodies.

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But now, seeing by the aforefaid Preparation, that the Grain is not only fitted and prepared for the giving forth its nourishing Vertues, but also in great meafure exalted, being separated from thofe crude, raw and Phlegmatick Spirits, which naturally adhere thereunto : Therefore if there is a Defect in Beer, Ale, or other Liquors, fo that they putrifie, rope, four and ftink, this proceeds not as a Defect from that of the Grain, fo much as of the *Menstruum* or Liquor, *ſc.* Water, by which the Vertues of the Grain or Malt are extracted, that being the *Menstruum* of the World : But as it is an Element, and the Inferior Waters, 'tis lyable and ſubject to the Curſe, as all other things be ; and therefore hath Parts interwoven therewith, which have not affinity with the eſſential Purity thereof : For as the Philoſophers ſay, every thing carries its Life and Death about its own Neck : And if ſo, conſequently its Corruptions, which we can plainly demonſtrate in and by Universal Principles, that this Element is not Deſtitute

tute of, and much more in those Places where the *Central Archeius* or Fire of Nature doth not warm and stir it up into Activity, by that living Spirit which rarifies and purifies the same, for by Motion things attract what is homogeneous to them, and are separated from their heterogeneities; wherefore Waters standing still soon stink and putrifie: Why then should some of late fallaciously pretend to the contrary, by endeavouring to make the World believe, That Decoction or Rarification is that which destroys and evaporates the living Spirituality of the Waters: No, that is not so volatile, but is that which gives Vertue, and must by consequence be united with the Centre thereof, seeing Life always subsists in the Centre of every Body, which cannot be touched any other way, so as to be exhausted, but by Fermentation and a violent Separation, which is an Exhalation of the Saline and Sulphurous Qualities thereof, which is that Earth, by which the said Element is Elementated, which doth remain even
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in Rain-water, after all the Moisture is evaporated ; and this is that in this Element, together with the Spiritual Life, which nourishes Beings, seeing the Element it self is only as a *Menstruum* or Vehicle, for conveying of the same to the Centre of the Earth, where the Sperm is mixed and sublimed for Vegetation ; and therefore if the volatile Aquacity is in part evaporated, then by consequence must the *Menstruum* become more sharp and powerful to act on Bodies ; and as it is more satisfied by the radical Union of the Grain, so is that Liquor, so produced, more durable, vertuous. and agreeable to Constitutions either temperately hot or cold, as will be shewn more at large in that Chapter that treats of Brewing : And although some, as I before cited, ignorant in the Law of Nature, do affirm, That Decoction separates the volatile brisk and airy Life, drawing their Argument from the groaning, cracking or sighing of the Water in Decoction ; when alas this is nothing else but the crackling Serpent

pent or wild *Blafs*, which is separated by the first Action of Decoction, and then ceaseth, and the Water concentrates into Parts more agreeable: As for Example, take Water, and put it on the Fire, and make it immediately to boyle, and violently to evaporate in such a way, that all the parts may be radically opened; and then immediately damp or put the Fire quite out, and this wild *Gass* shall only evaporate, and the Water become free and quiet in its Decoction, and is more powerful for the extracting *Tinctures*, as also for the making *Essential Oyles*, or indeed any use whatsoever; let others say what they will to the contrary; and the more especially where the *Sulphurs*, that are to be extracted, are of an hot and generous Nature, as is plain in that of making Tea and Coffee, or the Infusion of Sage and *Sassafras*, and many others; in that 'tis a general Custome to boyl their Waters twenty four hours, and only open the Pipe to let forth the

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the wild *Gass*, which is purely Philosophical. Observe, that this Experiment is best made in such Vessels, as have a blind Head, and proper beck only for Evaporation. And thus having in general run through what was promised in this Chapter, we shall conclude the same with this positive Affirmation, *sc.* That Decoction and Fermentation are the two Pillars, on which depends Exaltation and Perfection.

C H A P. II.

In which we treat of the right way of Brewing Beer and Ale in general, so as to make them the most Durable and Vertuous to Drink.

THE right way of Brewing is by a true and natural Preparation of the *Menstruum* or Liquor,
by

by which the Vertue is extracted from the Grain; which can be no other way but by Decoction; which must be so artificial, as to separate the wild *Gas*s; as was touched at in the last Chapter, That being the Grand and Fatal Enemy to Human Life, and there is no Element in Nature so much abounding with the same, as Water, as is plainly manifest in this, That Rain-Water takes into its Womb all and every *Gas*s, that proceeds from other Elements; which is the reason that those Places where Bogs abound, and the Air hath not Power to penetrate the Body thereof, so as to rarifie and enliven the same, are so unhealthful, and so often cause contagious Diseases; for you must know the Motion, Decoction and Rarification is the Life and Exaltation of Beings, as hath been said, as also the Purification thereof, in that they separate heterogeneities, and concitinate and ripen the homogeneous Qualities; and seeing these are of such Universal Tendency in Nature, why may not they be the same in Art.

For

For Decoction is here really necessary, for without the same it is impossible to prepare our Food, so as to make it generous, agreeable and healthful for our Bodies : For as that Learned and profound Philosopher *Bernard Trevisan* saith, in his Answer to *Thomas of Bononia*, That Water, which is Cold and Moist, if it be well mixed with Vegetables, assumes another Quality, and in Decoction takes to it, and puts on the Quality of the Thing, wherewith it is thoroughly mixed : And there can be no true Mixture of things of Different Textures, but by Decoction and Fermentation ; but you are to observe, That when I speak of Decoction, I mean not one so violent as to evaporate the Compound, but to ripen the same.

So then, I shall come to explain what that Decoction is, which best agrees with our Mind, and is that, upon which the whole End and Scope of our Intention is built, *sc.* a Separation of the Wild and Unruly *Gass*, which is the grand Enemy and fatal Destroyer

Destroyer of the Life of Man, for reasons before rendred ; the manner how this is done, hath been also already touched at ; therefore in preparing your Liquor, in the *Art of Brewing*, let the same be carefully observed : For otherwise instead of having a wholesom and generous Liquor, you have that, which is destructive to the fermentative juices in us, by its Stagnatizing quality ; and tho this hath been prevented by many in the Art of Brewing ; yet it hath been by accident, the true Philosophy thereof being unconsidered : For when the Wise and Prudent of this Nation have by experience found their Beer ill Brewed, by making of them ill-disposed, or by its soon souring or roping, they have ordered that the same should be well boyled , and then they have found a better effect, by which boyling a separation of the *Gass* predicted hath been made, and this might have been much more easily done, and without a considerable diminution of the Liquor, had but the true reason been understood ; *sc.* by an immediate,

ste, sudden, quick and violent boyl-
ing, and then an immediate damp-
ing of the Fire, so that the *Gass* may
evaporate ; which will be more in one
half hour, than by gentle simmering in
five or six hours ; for the Body of the
Water is radically opened, so as to
let that freely pass out ; and then the
Water attracts and receives in its
place a vital and spiritual Life from
the Air ; for there is no such thing
as a *Vacuum* in Nature ; for if Nature
should admit of this, Beings would soon
be annihilated. But we see the contra-
ry, for Nature tends to the bettering of
things, and aims at her End, rejoy-
cing in the same, as the Pismire doth ;
and therefore is she not one moment
idle, as *Sandivogius* truly says ; but
many times she comes short of her
end, by meeting with obstructions in
the way ; and therefore must it be the
great business of Art, to help her
where she is deficient, *sc.* by taking
out of the way, that which is offensive
to her ; And that you may yet the bet-
ter conceive, why there should be
such a *Gass* in Waters, we shall give
you

you the reason. You may remember, that I said before 'twas the *Menstruum* of the World, making one Globe together with the Earth, and having its centre in the heart of the Sea, and (as *Sandivogius* saith) hath one Axle-tree and Pole with the Earth, by which all Courses and Fountains of Water issue forth, and disperse themselves through the pores of the Earth, so according to more or less do Springs arise, and afterwards meeting together, encrease and come to be Rivers, and those return to the place, whence they originally came : Now as the Waters pass through the pores of the Earth, and through narrow and strait places, where Sand is, they leave their saltness there, and become fresh ; so that 'tis a certain and Infalible *Maxim* in Philosophy, *That Water is purged by Sand* ; now afterward, as they pass on further, they take into their Bodies more or less of the Nature of those things which they passed through ; and if they come through a place, which is hot and Sulphurous, and continually burning, they are thereby made

made hot, and thence Baths arise, for (as *Sandivogius* saith) there are in the bowels of the Earth places, in which Nature Delights and separates a sulphureous Mine, where by the Central Fire 'tis Kindled; the Waters runing through these burning places, according to the nearness or remoteness, are more or less hot, and so break forth into the superficies of the Earth, and retain the tast of Sulphur, as all Broath doth of the Flesh boyled in it: After the same manner it is, when Water passing through places, where are Minerals, as *Copper*, *Allum*, doth acquire the favour of them: as also through all the other diversity of Vapors, that the Earth abounds withall; so there is no wonder why this Element should be impregnated with a wild *Gass* as before-said, seing it passes through such diversities thereof, in the Bowels of the Earth, and as it comes to the superficies thereof in a more immediate degree, or as it passes further through such places, where it is again purged, so doth it retain more or less of the aforesaid *Gass*;
and

and this is that which causes the great diversity of Waters ; so that some are harsh and rough, others more mild, others more slippery and friendly to Nature, as such which passed through *Alkalifared* places, or where abundance of Chalk abounds : And 'tis observable that some Waters shall wash with half the quantity of Soap, as others will, which proceeds from the richness of their Absterfivè virtue and Salutiferous qualities in Nature ; and from a Spirituous, Oleous, and Saline Vapour, that they are impregnated withal in the Bowels of the Earth, and where is that Philosopher now born, that can demonstrate to us, how much with this or the other quality Nature hath impregnated the same, seing she works invisibly, any otherwise than by the effect produced in the use thereof ; or who dare presume to assert that he will shew us the exact number of times, that Nature hath decocted or impregnated the said Waters with different moist vapours ; or how often it hath since its issuing forth received its purgation ; or how much

much it must be now decocted and purged, to make them equally generous; seing there is such great diversities of Waters, as is plainly manifest, some more friendly, others more austere, some more agreeable to one Texture, some to another; and tho it is still but Water, yet doth it as much differ in some Cases, as if compounded of different Textures, being so unlike to one another; for some waters are so prepared to our hands, that little or no boyling will make excellent Beer; others must have a considerable time of Decoction to ripen them, or else they'l not be fit to make Beer of; we have an example of this by the Waters of *Roterdam*, of which indifferent Beer is made, as those that have travelled can testifie: But a certain English Brewer, upon the well-boyling of his Lignor in the first place before Mashing, even to a considerable consumption, made excellent Beer and Ale thereof; which I, by my own experience, can testifie was little inferiour to that of *England*, which is highly esteemed there.

Here the Vertue of Decoction was manifested even by that Water which proceeds from one of the finest Rivers in *Europe*, for that it comes from the *Rhine*. The manifest Difference of Waters may also be discerned in most Counties of *England*: For, for Example, let six Sacks of *Hartfordshire* Malt, which was made from one Grain, at one and the same Time, from the Cestern to the Kill, be brewed in six different Places, or with six different Waters, and every one of these Beers shall be discernably different in Tast, although the Grain was one, yet doth this Difference issue forth by the diversity of *Menstruums* or Liquors: Therefore I would have all our English Gentry, Brewers, and other House-keepers, that brew their own Beer, if they desire their Health, not to hearken to Notional Theory, or to such as are swelled up with the Poyson thereof, like a Toad touched by a Spider, ready to burst without the Antidote of Plantine, but apply themselves to Experience, the only sole Mistress of
true

true Wisdom; and in the first place let them, by many Tryals, prove the Nature of their Water, first by a more short, and afterwards by a longer Decoction: But in all be sure that you separate the Wild *Gass*, the Sword of Mankind; and when they obtain a Liquor most Generous and agreeable to their Constitutions, let them keep to the same; for in this Case every Man is properly his own Judge, and there is an Ancient Proverb in *England*, *That every Man at Thirty Years of Age is either a Fool or a Physician*; that is, he must then know what best agrees with him: Now for these alledged Reasons, it is impossible for any Man to prescribe an infallible Rule in Brewing, any more than those general ones here by me performed; therefore I apply myself to the Judicious, as my proper Judges, to determinate the Cause depending, and to Encourage and Receive Truth, according as it is delivered; God knows my Heart, I write not for Notions sake, nor for Vain Glory, but for the sake of

Truth and the Health and Prosperity
 of those, the Inhabitants of *Britain*,
 whom I so highly esteem, as my daily
 Labours may easily demonstrate, in
 that I cannot chuse but cast my Mite
 into her great Treasuries of Wis-
 dom, &c. But from the Digression
 to the Matter in Hand ; I say then,
 That all Waters are more generous
 that are most endued with a saluti-
 ferous, Saline, oleous Life, and do
 daily receive a Rarification from the
 friendly *Archeius* of Nature ; as also a
 fresh Influence from the Starry Pow-
 ers: But here, by the way, it must
 be observed, That Waters are best
 to be taken, when the Sun hath ex-
 haled the damp and cold Fog there-
 from ; and their Bowels are warmed
 with the benevolent Rays thereof,
 for to be sure what Nature does not
 in this Case Art must ; for this before-
 described *Gass* is not only evident in
 Water, but also in most other con-
 creted Beings : You have an Example
 hereof in Wheat-Corn, which is the
 wholismeist Grain in *Europe*, and the
 Staff of Man's Life, in that it hath
 received

received a permanent Maturation ; both from the Celestial and Central Sun , for if it be eaten raw , or the Flower thereof , it causes Diseases , but being fermented and baked the Heat sends forth this said *Gass*, as is evident, in that it becomes so Vertuous ; the like is to be seen in Syder, yea, even in Wines, which are not to be ripened but by a Fermentation, which is even a Sparkling, foaming, or (as I may truly call it, Nature's) violent Decoction, even to an Exorbitancy ; and all this is in order to separate that , which doth not centrally agree therewith, *sc.* the wild *Gass*, which is evident in this, That if a Barrel be then closed up, it will burst in Pieces , for it will make its way out : But as soon as this is exhaled, then the Action of Fermentation ceases ; but where it ceases before the said *Gass* is fully sent forth, there it causes the Liquors soon to Fret, Corrupt, Rope and Sour, as being diseased in itself, wants an internal Sanity , and the best Cure in this Case is Racking it

off. Now, it is observable, That what Decoction is wanting in the Separation of this Gass, Fermentation doth compleat: And I wonder why this late Writer should allow a Window in the Kill, to let the gross Steams, fullen Damps, and stupifying Vapors (as he calls them) to pass freely away, and to let in the Air, when he doth not at the same time allow the same Benefit to Water, which is the Element and Vehicle, which conveys the same to other compounded Beings, in the Act of Generation: And though Nature hath been never so bounteous in ripening the same, yet is it not fully separated there-from: And Fire, which is in the highest degree Hot and Dry, that, even that, contains in it this wild moist *Gass*, as we can easily demonstrate before Men of all Qualities; now if what is here said is not sufficient to demonstrate the Nature and Effect of the said *Gass*, then let such as desire to be better satisfied, apply themselves to other Volumes, as our *Spagyrick Philosophy Asserted*,
as

as also our *Trifertes Saladini* : But how-
 ever, we shall add thus much, seeing
 this new Moddler attributes all the
 unhealthful Qualities to proceed from
 well-boyl'd Beer, and principally
 those of the *Scurvy*, *Stone* and *Gout* ;
 yet, we say on the contrary, That
 these rather proceed from Beer not
 well boyled, especially where this
Gass is not fully evaporated, for 'tis
 from this, and only this, that they
 proceed : For this *Gass* is Mineral and
 Excrementitious, and hath in it such
 wrathful Qualities, as stigmatise the
 vital Functions, for it is endued with
 a Coagulative and Forming Quality,
 and will make Stones or Excrements,
 and sometimes takes on the Bodily
 Form of Arsnick or Poison, it must
 be doing, although Evil. We read
 in *Aventius Annel. Bavar. lib. 7. Anno*
1343. That above fifty Men, with ma-
ny Cows, were turned into Stone: Or-
telius tels the same Story, of whole
*Herd*s in *Russia*. And *Camerarius* re-
 ports, *That in the Province of Chilo,*
in Armenia, at the blast of a South
Wind (which happens four Times in

the Year) whole Troops of Horse have been turned into Statues of Stone, standing in the Warlike Posture as they were before: And Ovid describes the Thracian Waters, which make all things Marble, and turn their Guts into Stones that take them inwardly. Which in plain Terms are no other than this Gass, which is plainly to be demonstrated in the Urinous Classes, though not so evidently in the Vinor one, because the *Calidum Innatum*, or warmth of the enriching, drying Sulphur doth so dilate it, that it is easily spent in Decoction and Fermentation: But the Urinous and Mercurial Qualities do rather Increase and give Strength, because the Vinor and Sulphurous Qualities, which are there, are so small as not to be able to put it into Motion, so as to work its way forth; now as the Vinor and Urinous are the two general Classes of Nature, in that the very Spirit of the World, which nourisheth all things is Urinous; so doth the Vinor contain the Urinous, though invisibly, as the Urinous doth the Vinor in the same Nature, according

ing as the hot and moist, or cold and moist Qualities get predominancy; and from hence it is very evident, That this Spirit is the Original Cause of many Diseases, and principally by its Volatility, for that Diseases have their first Original in the Spirits; and that this doth remain in Beer un-boyl'd is evident in this Example. Take Wash, prepared by the Distillers, where neither Liquor nor Wort is boyled, but hastened into a Fermentation, and being put into the Still, and suddenly made to boyl, as they do, the Beck of the Still being not immediately put into the Worm, till this *Gas* is invisibly off; for if it should, it would cause it violently to boyle over, and so foul the Worm, or else force off the Head of the Still, when as Beer well Boyled and Fermented, having Age to boot, may be stilled without this Observation, and will yield by abundance the far more wholsom Spirit. The same is done in Syder, Wines and other Liquors, so ordered; and this is one Reason

why *French Brandy* excels *Englifs Spirits*.

Another Consideration. which is a plain Proof that this *Gafs* remains in Beer unboyled, is the Paleness of its Colour, which shews it rather to have the Moist Mercurial Quality predominant than the Sulphurous and Friendly one; Friendly, I say, because Tincture shews Sulphur and Sanity, because these are the Houses of Light, and so chase away thousands and legions of the dark diseasie *Ideas*; now Decoction only is that which manifests Tincture, and by consequence the Health-making Vertue: And I can compare white Beer to no other than *Chyle* or Posset, which is only made by the first Action of the Stomach, which, should it remain so crude, by a debility in Nature, all Physicians would allow, to be the Author of many Diseases; but when the Central Fire is strong, to make a true Concoction, Digestion, Circulation, Fermentation and Separation, then Tincture is brought unto it; which

which by the help of the Vital Flame is exalted ; and so from thence the Animal Spirits elaborated, then doth this Tincture manifest it self in the healthful Constitution, when Diseases and Death are pale and wan. And what egregious Nonsense is this, even a Contradiction to the Laws of Nature, to make, as if that, which is her first Intention, should be That, from whence Sanity should proceed, and yet at the same time not to allow the degrees of Exaltation thereunto. Our new Moddler saith, *That to make Malt with Judgment is no small part of Chymistry*: And if it should be so as he saith, he must by consequence allow me one Consideration therein, which is purely Natural, and doth infallibly demonstrate the Office of Decoction ; which is, That Silver is made by Nature of the same Seed, and in the same Matrix as Gold is ; but Nature hath sooner done in Silver than in Gold, and so hath she left it pale and wan ; and from thence will proceed a Medicine but for very few Diseases : But when Nature

hath

hath by a through and longer Decoction brought it to the Maturity of Gold ; then doth it manifest a Tincture, even a Rich and permanent Sulphur, from whence may be made an *Aurum Potabile*, curing all Diseases, so that this still confirms, That Tincture produces Sanity, which is the conjunct Property of Health : And this afore-cited Author's saying, *sc. That the first step to the generating the Stone in the Bladder, Gout and Consumptions, and other Diseases, is the drinking of Strong, Hot, Sharp, Intoxicating, Stale Liquors, and Fiery prepared Drinks, as Beer high boyled with Hops, &c.* is a grand Mistake, and really shews his Ignorance in true Philosophy ; for 'tis not the Use of these, that can cause one *Disease Idea*, but the Abuse thereof ; so as to cause *Surfeits*, or to over-power therewith the Natural Heat, and suffocate the same : And thus Food also performs the same, and indeed so doth the best of Medicines, when taken in so large a Dose as to overpower the natural Strength ; therefore let the Vertues
of

of things be observed from the Temperate Use, not the Abuse thereof: For we see, this proceeds not from the well-boyling of the Beer, so much as from the wild *Gast*, when not well boyled; for we see no Men in *England* more healthy than the Country-Farmer, who keeps a Cup of good brown Ale and a Toast, and temperately will drink a Glass of Stout. For my part, no Man shall persuade me, that any Lignors can be more wholesome to the English Constitutions than those of their own Climate, amongst which good Beer is a principal one, especially if it be but well and truly Brèwed, Fermented, and kept in Age, according as it hath Strength to hold its Body, so that it is upon no Fret, but drinks Brisk, Sparkling with the Aircal Life and Richness of Spirit; then and then only doth it retain all the Vertues belonging to good Beer, even the Balsamick and Nourishing ones. And though those that are troubled with the *Stone* or *Gout* may receive some effects of its Spiritual Action,

in

in its being too Brisk and Active for their Weak, Crasy and Diseasy Body; yet doth not this manifest that it should be the Author of this Disease any more than a good Medicine doth, which being taken by the Diseased makes them for a Season the worse, their Natures being too weak for its healthful Qualities, for were it otherwise it would work the same effect on all, for what is centrally destructive will certainly be always manifesting its Power, for that which nourishes, and hath Vertues so to do, cannot at the same time poyson any other way than by that of a great Fire putting out a little one, and yet doth Fire and Fire agree: 'Tis true we allow it may give Pain, because 'tis Active, Brisk and Spiritual, and will be doing some good Office, as all pure Tinctures will; but it being designed by the all-bounteous God for Food, why should Men expect it generally to work the effect of a Medicine: But however sometimes it may so fall out, that it will work a greater than many a Medicine will, and especially

especially where Nature languisheth after it, as she doth where the use thereof is with-held: For we have seen in violent Burning *Feavors*, when all seeming Hopes of means have failed, that the Patient hath recovered by being admitted to drink moderately of Beer; therefore in our Practice do we with-hold the Patient from nothing in Moderation.

It being clear to us, that this Author is mistaken in the Original of Diseases as much as in the Grounds of those Arts, which he seems to keep at, therefore in compassion to him, for his better Information, I advise him to look to our other Volumes, for the Original of Diseases: And leaving him there, to consider his Mistakes, I shall come to lay down what remains to be treated of, for the Readers Information, in this Chapter, *sc.* That Decoction is not only useful in the ripening and maturing of things, but also that there are many degrees thereof; for as that Learned *Bernord Count Trevisan* saith, for example sake, in the Art of Physick,

sick, pure simple Fountain-Water, by boyling in the first Decoction, is joyned with the Flesh of a Chicken, and thence in the first degree of Concoction we obtain a Broath, a good and perfect Decoction, the Humid, Watry and Airy Parts of the Chicken being actually dissolved in the afore-said Water, though there be other Elements therein also actually: But that it may be made a much more perfect Medicine, and more generous for restoring Man's sick Body unto Health, the decocted Body of the Chick is beat into a Mash, with the said Water already altered into a Boyl'd Broath, or with part of it, and is distilled by a stronger Decoction, whence a Broath and Decoction will be made much more Noble and Generous, partaking of the whole Nature of the Chicken, because by this second Decoction not only the moist Parts, but the hot Parts, that is its Aireal and Fiery Parts, being melted into the Broath or Decoction, are thoroughly mingled and dissolved, and therefore the whole

Vertue

Vertue of the Chick is in such a Decoction extracted into the aforesaid Liquor.

So then Decoction doth not only ripen and make generous but also exalt things to their full Perfection ; and doth not in the least destroy their Balsamick Vertue, as some ignorantly think, for that consists in the Sulphurous and Saline Qualities, for the Mercurial is twofold, Volatile and more Fixed ; The Volatile consists only in a Moist Vapour, interwoven with the aforesaid *Gass*, by which 'tis yet made abundantly more Volatile, but the fixed is not easily to be touched by *Menstruums* or any other ways, seeing 'tis that of which the very Substance of the Texture of Bodies doth consist ; and though the Sulphurs may be extracted, yet will the Corporality remain abundantly more Gross than before. This was pointed forth by the Famous and ever Worthy *George Starkey*, when he said, That the Central Body of Mercury is a Peerless Creature, stooping to nought, nought indeed but the *Grand Universal*,

sal, Tinging Light, which hath Power to transmute from a State of Corruption to that which is more permanent and lasting, or more especially to that *Grand Tincture* and *Divine Essence*, I mean the Magisterial Blood of Christ, which is the *Quintessence* of Heaven and Earth, and the Fulness of all the Glories thereof; for that in him, as the Apostle saith, *dwells the fulness of the Godhead bodily*, and in him doth the fulness of the Power of Transmutation consist, in that in him one Grain of Faith, though no bigger than a Mustard-Seed, is sufficient to Transmute and Change the vilest of Sinners into the best of Saints; and by him shall all things be regenerated and created **anew**, and redeemed to an Immortal **State**, old things shall be done away, and all things shall become new, for do not the Scriptures say, *That he will create a new Heaven and a new Earth.*

Now, as a Christian, I am bound in Duty to believe him to be the *Imperial Panacea* and Fulness of all; yet at the same Time, seeing by him that
all

all things were created, we do allow that some Essential Vertue doth so remain in his created Works, as if concatenated will produce a *Panacea*, which by Mortals is not to be despised, seeing it emblematically tipifies the inexpressible Glory of the Almighty Creator ; but of this more at large in our *Ignis Astralis Adeptorum* : Therefore being omitted here, we shall come yet farther to consider the Excellency of Decoction in this, that if it is gentle after the first wild *Gass*, nothing evaporates but the Cold and Flegmatick Nature, so that the Sulphurous and Saline is ripened ; as is evident in this, if that you make a strong Elixeration of Wort, you may by a very gentle Evaporation bring it to a Sap, very gumous, wherein the chief Vertue of the Malt consists, for if it is done gently, you may at any time convert it into good and wholesome Beer again ; which is evident not only by our own Experience, but also by that of the famous *Radolphus Glauber*, where he shews, *The Concentration of Beer and Wine,*
for.

for the benefit of Transportation, and by the same, by the Addition of Liquor, may be reduced to its first State again, and of equal Goodness: And I say, That this Sulphurous Gummosity is so manifest in the Elixeration of Malt, and all other things whatsoever, that even after a Fermentation, that is suddenly forced, and after the Distillation of its Spirit it will remain in very large Quantity in the Wash, as may easily be demonstrated in the Evaporation of the same, for there will remain a Gumous Extract, very sweet and pleasant to Taste, of many excellent Vertues, being the Mummial Balsom of the Barley or Grain. 'Twas doubtless for this Reason that Glauber said, *The best part of the Malt was given to the Swine*; for herein is contained the Saluteferous and Friendly Vertue: This being as the Body of the Chicken unto the Broath, and is not united with the *Menstruum* or Liquor but by Decoction. Neither is it Volatilized, as is evident, but by a more long and secret Fermentation; and this.

this is the reason why the *English Spirits*, as now made, are so unwholesome to the Body of Man, they wanting the most Friendly Vertues being filled up in Place thereof with the destructive *Gass*, the Liquor or Wort being not boyled, it must remain therein: For (as the thrice Noble *Helmont* saith) *This Gass is not wanting even to common Water, all things being subject to the Curse; and so cursed Liquors produce cursed Effects: But what cares the Distiller for that, he himself drinks little thereof, for he will go to a Glass of Sack, or a Dish of French Brandy, and he seeks for Quantities and Profits from his Distillation, to maintain the same; this is the reason why we in our Art of making Wines, Brandy, &c. have commended well-brewed Beer, as the true Basis on which the great Business of Distillation depends: And we say, That if the same be well fermented with our Sal Panarissos, or some other Artificial Way, 'twill yield Quantity of Spirit sufficient, considering the*
Quanti-

Qualities that are so highly advanced: 'tis not the great Quantity of Spirits proceeding from new Beer, which we esteem so much as we do the Vertues of those proceeding from the Old. Let the new Moddler instance what he pleases, for 'tis generally agreed on by all the Ingenious, That Decoction and Fermentation ripen and exalt all things; and I make no Doubt but the learned *Colledgiates* will allow the same, why then should not our Nobles, Gentry, &c. be advertised in that, wherein not only their own Health consists, but also that of the whole Inhabitants? For since so many new and ungrounded Inventions have been, and more especially now of late, how many thousands do there deplorably die away, yea even to the Amazement of Physicians: And I have but two things to place this on, *sc.* The immediate Hand of God's Judgment on the Nation for Sin, or the Inhabitants neglecting the Means of their own Health, by eating so much raw Fruits.

rare Flesh (so called) but rather
 raw, and drinking new and unboyled
 Beer, and poysonous Arsenical Spi-
 rits, the very Bear, Lyon, Wolf,
 Tyger, Serpent, Dragon, nay the
 Basilisk to Man's Health. We have
 an History, That *S. George killed the*
Dragon in Egypt, from whence came
the Honours, Titles and Dignities to
England and English Men, and will
 you now let the like Egyptian Dra-
 gon inhabit your Houses, and be
 harboured in your Bosome, when
 he designs nothing else but your
 Lives? Remember the Valour of
 your Ancients, and let him be ba-
 nished from your Land; let your
 wise Magicians conjure him into the
 Black Sea, his own Inhabitation;
 and let there be a Law made, upon
 Pain of Death, that none shall
 harbour his Eggs for Fear of a
 Cockatrice: Remember, I say, the
 good old way, and the Health and
 Innocency of your Fathers, who liv-
 ed to a good old Age, who perhaps
 never drank any thing else in their
 Lives but a Glas of well-brewed
 Beer

Beer or Ale, which proved to them more profitable than any of these New and Late Inventions, especially such as have no Ground in Truth; But what *says Solomon?* *There is nothing new under the Sun*; what are, have been, and will be again, so that New Truths are but the Reviving of the Old ones, or a Discovery of that which hath ever been, though not in general known; for those that have known it have made a Secret thereof; and being Envious, and unwilling that their Fellow Creature should stand in equal Knowledge with them, have reserved the same, so that it hath died with them, as is evident in that of Staining of Glass, so as to bear the Fire, Tyron-Purple, and Transmutation of Metals, &c. to the great Disadvantage of Mankind; for had it but been otherwise Gold might have been as plentiful as Dross.

Having thus run through the *Theory* of the Usefulness of Decoction and Fermentation, I shall now come to the Practice thereof in the mode of Brewing, &c. But

But, by the way, I think it needful to touch, how Waters may be in some Measure exalted to a more salutiferous and friendly Nature, which may be of great Use to the Inhabitants, especially where good Rivers and friendly Springs are not. You may observe, that we before hinted at, the Nature of Waters, now how they may be graduated and made alike, is thus; Seeing those are the best that go through Sand and Chalky Places, which do imbibe the Contrarieties, as is plain in this of the late Invention of making Salt-Waters fresh; late I cannot so properly call it, being touched at by *Helmont* and other Philosophers, but however it was of late that a Patent was obtained for the same: Salt-Water therefore is thus made Fresh, by a Precipitation or Imbibing their Saline Qualities by some contrary Ferment, and then the Aquacity may be distilled off, either in a Copper-Still, or such Instruments as the Patentees have ordered

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to

to Sea: Now the matter proper for precipitating the Saline Quality is *Salt of Tartar, Pot Ashes, Lime made from good Chalk, or rather that of Oyster, Muscle or Cockle-Shells,* or two or three of these mixed together, and made into Balls and thrown into the Still, and the Water distilled there-from shall be as purely Fresh as the best River or Fountain Water. Now the Philosophy and Mechanical Reason hercof is this, The Alkaly destroyes the Sharp and Spiritual Points of the Acid, and fixes it so that that which is yet more Spiritual may ascend: And the same thing may be performed by any other Alkaly. This is the Reason why Lime, Chalk, Beech-Ashes, Crabs-Eyes and Alkalized Nitre, or that of Coral, make sour Beer sweet, as the Spirit of Salt in few Drops immediately makes New Beer drink Stale.

Why then may not our Springs be enriched, by causing them to run through such things, as will make a Precipitation of the Saline, contrary

contrary Qualities, whereby they may be made wholesome, and agreeable to our Constitutions, seeing both Nature and Art daily perform the same; and Experience shews us, That it may be radically done: For Example, If you have a Spring, which is Saline, Vitriolick, Muddy or Nauseous, then dig as near as you can to the Head of the said Spring, and round about it make a Bed of Beech or Wood-Ashes, and then lay another of Sand, and then let the Foundation thereof be made with Chalk, and the Waters by passing through shall be made so Sweet and Pleasant as to answer the End desired. This may be done in any Place where the Waters ascend, and where Chalk and the rest may be had with little Cost and Labour, but with great Advantage to the Drinkers thereof, seeing Diseases (as hath been said) do often proceed therefrom.

Now, your Waters being prepared, you may thus proceed to your Brewing: First, make your Liquor or Water to boyle very suddenly, and when it boyles with the greatest Violence, immediately damp or pull out your Fire, (as hath been said) or immediately remove your Liquor into some proper Vessel, there to remain, and cooll till the height of the Steam or Vapour is so gone as you can see your Face in it, and then put it into your Mashing Tub to wet your Malt, as stiff as you can well row it up, and let it remain so about a quarter of an Hour, and then add another Portion of Liquor, and row it as before; for if you ad your Liquor by degrees you shall the better obtain the Vertue from the Malt, then add your full Quantity of Liquor, according as you purpose to make your Beer or Ale in Strength; then let the whole stand about two Hours, more or less, according to the strength of your Wort or difference of Weather; then let it run into the Receiver,

ceiver, and Mash again for a second Wort, but your Liquor must be somewhat cooler than for the first, and let it stand but half the Time; these two Worts being added together, you may put the Quantity of Hops you design thereto, and put it into your Copper, and let there be a large blind Head fitted to the same, lute all fast, that nothing may evaporate, and gently boyl the space of one or two Hours, and as the Goodness or Badness of your Liquor or *Menstruum* is; remove then the Head, and let it out into the Receiver, and strain the Hops therefrom into your Coolers: And so have you a Wort, in which the full Vertue of the Grain and Hop is; which being cooled, fit for Barm; let it work, and then be tunned up, according to the Experience of the Brewer.

Now, if you design it for Distillation, or small Beer for Servants, then Mash a third Time, with your Liquor almost cold, and let it stand not above three quarters

of an Hour; the which you may Hop and Boyl according to Discretion, there being no Curiosity to be observed, the full and essential Parts of the Grain being before extracted, wherefore this is something austere and harsh, but may be moderated by a little Honey or Molasses, and being boyled with Hops, Wormwood, or any other preserving Herb, becomes excellent Drink.

Now Double Ale or Beer is the two first Worts, used in the place of Liqueur, to Mash again on Fresh Malt, and then doth it only extract the Sweet, Friendly, Balsamick Qualities there-from, its Hunger being partly satisfied before, wherby its Particles are rendered globical, so as to defend themselves from Corruption, for being thus brewed it may be transported to the *Indies*, remaining in its full Goodness, nay rather enrich it self; therefore must double-brewed Beer contain three times the Vertue of the single, because of its durable Qualities and internal Sanity; whenas the single, if not well brewed

brewed especially, soon Corrupts;
 Ropes and Sours. And thus you have
 in general my Sentiments concerning
 Brewing of Beer to Drink, of which
 we cannot, as before was said, be
 more particular, seeing the great Di-
 versity of Waters, and different man-
 ner of each particular Brewer, which
 make considerable Alteration; and
 some are so practically expert that
 they need no Teacher, therefore our
 Intention here is no other than only
 to delineate and point forth the exact
 Method of separating that *Gass*, which
 is so destructive to Human Kinds. &c.

C H A P. III.

*In which we Treat concerning the
Way used in Brewing, in order
for Distillation.*

THE way used by *Distillers* is that whereby they may obtain the greatest Quantity of Spirit ; and although we do not approve of it, yet we think convenient to give it, because they shall not think that we are ignorant thereof: Which is thus.

First, heat the Water a little above Blood-warm, that is, between Blood-warm and Scalding hot, and then the Malt being in a Mash Tub, add so much Liquor to it as is sufficient just to wet it, and this is called *Mashing*, then row or stir it up very well with two or three Pair of Hands, for half an Hour together, stilly, till it is all mixed in every part,

part, then add in what Quantity of Liquor you think fit, but the stiffer you mash, the better it is, then strow it all over with a little fresh Malt, and let it stand an Hour and a Quarter, or thereabouts; then let it off into its Receivers, and mash again with Fresh Liquor, and let it stand about an Hour, rowing it up as before said; so a third Time: But some will mash a fourth Time, but then it must not stand above half an Hour, but I say that three times is sufficient, the fourth being fitter for Small-Beer for poor People than for Distillation, without you use it in the stead of Liquor for other Mashings on Fresh Malt. Now some very Ingenious Persons boyl their Liquor and coole in, which I well approve of.

Now every Wort that comes is pumped up, out of the under Back into the Cooler, there to Cool, and then from the Cooler into the *Wash-Backs*, and there let it remain till all the three Worts come together: And by the way observe, that you

neither Hop nor Boyl, as for Beer ; now when they are down in the Backs, and in a proper coolness, and fit to be set, then add good Yeast enough to work it very well, as for Ale, and as the Yeast rises up, beat it down again, and keep the same all in, and let it work three, four or five Days, according to the Season of the Year, and according to the Temperament of your Back, when set, and Judgment of the Distiller, for a Back of Wash, either too cold or hot set may be easily holpen, by adding in hot or cold Liquor ; now if you exactly know the Time of the Washes being come, then you may take off your thick Yeast, to set other Backs with ; but if not, then you must take with you these Signs, it will work it self down flat, and then the thick Yeast will sink to the bottom, and what lies on the Top will be a kind of an hoary or yeasty Head : And you must observe, That your Wash must neither be sour nor sweet, but in a *Medium* between both , for then it will be

be most profitable for the Distiller.

The way to work it into *Low Wines* and *Proof-Spirits* is as follows: Pump it out of your Wash Back into the Still, until it is filled as high as the upper Nails, or thereabout; and as it is pumped up, be sure that another row all up together, that so that in the Bottom may come into the Still, thick and thin together; let down your Head on the Still, but put not the Nose thereof as yet into the Worm, but first make a very good Fire, so as to cause it to boyl, and so a great part of the *Gass* will go off, as much as possibly can without Decoction; then as the Beck begins to drop, the Nose must be put into the Worm, and all luted fast with a Paste made of Whiting and Rie-Flower: Now your Still being brought thus to work, if it should run too fast, with wet Coals or Ashes immediately damp the Fire; and thus proceed to your first Extraction,

traction to draw off your *Low Wines* :
 Now 'tis observable, That some Malt
 will in the beginning run off a Cann,
 two or three of *Proof Spirits*, and then
 it generally runs long ; othersome
 runs not at the beginning so fully
 Proof, yet will yield indifferently
 well : Thus your *Low Wines* being
 distilled , you let them lie ten or
 fourteen Days, to enrich themselves,
 for *Low Wines* in that Time get by
 lying, but some think that after-
 wards they lose, but *Proof Goods* lose
 by lying, except they lie warm :
 Having thus done you may pro-
 ceed to a second Extraction into
Proof Goods, and then to a third
 called Rectification, which we shall
 omit here, because (God willing)
 the next Impression of our *Britannean*
Magazine of Wines, I shall shew the
 Art so far, as that most excellent
Stuff may be made.

Rules.

*Rules to know what Quantity may
be Extracted from every Quar-
ter of Malt.*

YOU must, in the first Place make about fifty Gallons, or something more than three Barrels of *Wash*, and that in the first Extraction will make 32, 34 or 36 Gallons of *Low Wines*, and those, if you let them lye, will make in the second Extraction 11 or 12 Gallons of *Proof Spirits*, nay some Malt will make 13, especially if in the second Extraction you add some Water into the Still, and such Malt will run two or three Cans, or seven or eight Gallons *Proof Spirits*, in a Tun, more than other Malt, nay sometimes fifteen or twenty. We generally count, That 20 or 22 Quarters of kindly Malt will give a Tun of good *Proof Goods*.

*The way of Brewing Good Drink
from Molasses.*

PRepare your Liquor, as before for Beer directed, and when about blood-warm, add to every hundred of Molasses thirty six or forty Gallons of Liquor, and stir them well together, until the whole is Dissolved; and then up with it into your Copper, adding thereunto three Pounds of *Lignum Vite*, one Pound of dry *Balm*, and four Ounces of *Nutmegs*, *Cloves* and *Cinamon* together; clap on its blind Head, and lute fast, and digest twenty four Hours, then let it run out into its Receiver; and as it is fit to set to work, put your Yeast in, and let it work sufficiently; then tun it up, and let it come by its Age Mellow and Brisk to drink, and you shall have an excellent Drink, very wholesome to Man's Body, and might be of great Service to those Islands,
where

where Sugar and Molasses so plentifully abound : We have brewed Molasses our selves in *Holland*, and by taking off the fulsom Tast, we have had excellent Ale, little inferior to that of Barley : The manner how Molasses are brewed for Distillation is shewn in our second Part, *sc.* the *Britannean Magazine of Liquors*, our Intent and Purpose here being only to treat of such Liquors as may be brewed and prepared with the least Difficulty.

Now, it is observable, That *Buck-wheat* makes also an excellent Drink, and is very much used in *Holland*; but there is no Grain comparable to malted Wheat or Barley, both for good Beer, Ale and Mum, although *Beans* truly prepared afford a very good Beer and Mum, which in *Germany* is usually done. and Doubtless some of the *English* Brewers know the Experiment of mixing the same with their Malt, a small Proportion does not amiss, but too great a Quantity gives it a Smack.

It is very good to know the difference and nature of things; for though we may at present have plenty of all sorts of Grain, yet a Time of Scarcity may come too soon, and then a Man, if fore-armed with Knowledge may in some measure help himself: It is good to fear the worst, and then the best can do us no harm; let us not be therefore too much lifted up, for as there hath been a Time of Famine, and Distress, so there may be again, which I truly Fear, and then if it should be so, those Beans and Oats, which now make the Horse to prance, the Nation might be glad of for Bread and Beer; for as an Ingenious Person observes, *The distilled Water of Oats doth so warm the Stomach, that it doth overcome the Senses: 'Tis well known, That many do brew a very strong and mighty Drink, with Malted Oats, and how profitable the same might be to all English Brewers (if there might be sufficient Store of them had) in a Dearth of Wheat and Barley, the same being rightly matched,*
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or rather mastered a little with the *Hop*, so alter their *Tast*, they can best tell, that have made their private Experience and Profit of them, when others very inconsiderately have run on in their common and chargeable way of *Brewing*.

The Liquor of *Beech* is likewise commended for the making an excellent and wholesome Drink: There may also an excellent Drink be made from the Tops and Flowers of *Heath*, seasonably gathered and dried, and brewed as you have occasion for it. The Root *Portato* being rightly ordered doth also make an excellent Bread and Beer; why then may not the English Hearts be as well contented with these in Time of need, as they are in some of the Northern Parts, in Time of Plenty, with Stock-fish for Bread, as they who have been at *Islands* can tell you? Nay dried Fish is esteemed a very good Food in *Holland*.

Now

Now we having recommended ſuch Things to your Thoughts, as in the Scarcity of Malt or Barley make good Drink; we ſhall likewiſe touch at that, which may alſo help, when there is a Scarcity of Hops; the End of Hops being only to allay the exceeding luſciouſneſs of the Malt by their Bitterneſs, whereby both uniting themſelves together, becomes a Savory and wholeſome Drink for Man's Body: Now this may be in every reſpect as well performed with *Wormwood*, and in ſome Senſe more agreeable, for *Wormwood* is endued with many vertuous Qualities; *It Strengthens the Stomach, Reſiſts Putrefaction, Prevents Surfeits, Strengthening both the Retentive and Expuſive Faculty, and many more,* as may be ſeen in every Herbal; when as to Hops we do not attribute one half the Vertues; 'tis true they purge the Belly of Choler: And thus appears the wholeſomeneneſs of Beer above Ale, as *Parkinſon* ſaith; but however we are ſpeaking of
their

their scarcity, when *Wormwood* is generally at all Times found in the Field or High-Ways. But here some may object, and say, That *Wormwood* will make Drink too bitter: But in answer to this I say, That we must learn to know the Qualities of Things; for as we have said in the *Britannean Magazine of Wines*, one handful of *Wormwood* goes farther than three of other Herbs, nay than five of some sort, especially when it seeds, for therein consists the most oleous Parts; and as the End is but only to mitigate the sweetness of the Malt, therefore you may take such a Proportion as will only mitigate, and yet not let the bitter Quality be predominant, beginning with small Quantities, and when, by several Tryals, you have hit the *pondus*, let that be your Guide in Brewing. It hath also been asserted in the Publick Press, That *Centaury*, *Artichoke Leaves*, or *Aloes Hepatique*, as having a Signature with the Hop, may, if rightly used, supply the scarcity thereof; but

but you must learn by Experience to acquaint your self with the Knowledge of the internal Quality of things, there being such a considerable Difference in things of the same kind or *species*: You have an Example of this in *Arsmart*, for the Male is twice as strong as that of the Female; and yet they are both still *Arsmart*; therefore I say, That the Signature must be learned, and known where the full Impression is stamped: It is true this Defect cannot wholly be attributed to generous Nature; because she is always ready to work in Sperm, as God doth in the Free-will of Man, as *Sandivogius* truly saith, The Defect is in the Matrix or Place, as being either over-burthened with the predicted *Gasts*, or else with stinking sulphurous Excrements: So that if Vegetation from thence proceeds of this, that or the other kind, the Vegetable or Mineral so produced is not by half so Vertuous, nay in some degree 'tis quite opposite to that, which is produced

duced from a good Soyl: But how little do the Physicians or Inhabitants of this Land consider this? for, say they, sure if Vegetables of this, or that, or th'other Quality, either Temperately Dry, Hot, Cold or Moist, did perform this, that, or th'other Cure, on this or that Constitution, with which it sympathized, it must do it again; but yet for all this, when they have prescribed them, they have found themselves much deceived, and not conceiving the Reason thereof, they have ascribed it to some more hidden Cause, when alas the Reason is obvious. It is also evident that one Field doth not bring forth Grain in all things exactly alike with the other; neither doth one Soyl continue to produce the same effect for Years together, for the Crops in Time of Harvest will be considerably different, one Good, Full and Pleasantly nourishing, the other Dwindling and Hungry: Therefore is it requisite,

as

as the Countryman yearly experiences, to alter the Grain; but even in this Case there might be a considerable Remedy, were but the Land equally manured yearly; for it is but a supplying of the radical Moisture, Salt Nitral Vertue, or Oleous Milk, equal to the Strength of the Grain sowed therein, which every distinct Concreate sucks forth in its Vegetation: For it is observable in the whole Course of Nature, that every thing requires a continual Supply; otherwise, that being thereof deprived, would soon be exhausted, as we have elsewhere said. The Presidents we have of this Nature are endless to be reckoned up; but seeing there is a Cloud of Witnesses, we shall omit it, and only recommend to those, that are not satisfied in this Point, the adjournal of their daily Desire to Food, without which it would be impossible to subsist: And seeing things are so evidently different, although they proceed from

from Land well manured, what must those then be, that proceed from Land never manured at all; therefore it is not sufficient that it is *Arsmart*, but its sufficiency lies in this, *sc.* in having the true Signature thereon: Nay, more than this, even to the Superlative Degree, that you gather it, when the Signature is in its full Reign and Dominion, sitting (as I may say) in the Throne of that Vegetable, and contributing Vertue to all its Parts; for if you know not this, you may certainly miss of having the same in its prestant Vigour, for we mind not so much the Planetary Hours, as we do the Signature of Things, this being so really necessary to qualifie a Physician; therefore I wonder what the *Apothecary* thinks, when he employs Old Women to gather his Simples, who do it at all Times, and in all Places, where they can find most; they (poor Hearts) know no better, it is a Livelihood that they want, and the *Apothecary* buys it cheap,

cheap, to make up his *Hodg-podge* of all together, which is a main Reason, That (as the worthy *Robert Boyle* said) *so many Diseases are Cured in Books, and so few in Beds*; we therefore cannot chuse but Recommend to the Inhabitants of this Nation *Spagyrical Medicines*; such we mean as are prepared by separating the Good from the Bad, that is, the friendly Balsamick Nature only from the Corruptions, which hinder its free Action, which can never be obtained by any of the Violent Fires of the *Chymists*, the which we do utterly detest; but by the Knowledge of the *Dalilah* of Nature in her Fermentative Power, but of this more at large in our several Volumes of the *New History of Britain's Internal Glory and Hidden Treasure*: But here to the matter in hand; and we say, That it is not only *Asf-mart*, which hath this Difference, but also *Wormwood*, *Mugwort*, *Clary*, *Scarlea*, *Vervine*, nay even *Opium* and *Rhubarbe*, *Scammony*, and almost

almost all other Simples ; therefore are the Rules here predicted necessary to be considered, by every Ingenious Person , that so they may in this Case help themselves. Now having touched at Signatures in general , we think it convenient to give a Touch at those that are Homogeneous , and stand nearest in Affinity each to other , as *Wheat-Corn* doth to that of the *Vine* in general ; but the *Vine* hath several Variations of Signatures, which produce the different Sorts of Wines , both in *Spain*, *Germany* and *France*, &c. as *Sherry*, *Canary*, *Malago*, *Rhenish*, *White Wine*, *Claret*, *Rappadavia* ; also *Champaign* , *Burgundy* , *Frontineack* , *Greek* or *Florence Wines*, &c. Now the Herb *Scarlet* hath a Signature agreeing with that of the *Muscadine Grape* ; the Herb *Clary* with the *Rhenish* ; the *White Currant Tree* with the *White* ; and the *Bramble* with the *Red*, therefore doth it's Fruit , being rightly mixed with good *Pippen* , or *Pearmain-Cyder*, make good *Claret* : We could

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cite more of the like nature, but we design to treat more largely thereof in the next Impression of our *Britannean Magazine of Wines*, and our Intent here is not to fill these Sheets with *Theory*, but to point forth that, which may redound to considerable Advantage in *Practice*, though indeed amongst others, the right Knowledge of Signatures, and how they are superiour in Quality or more agreeing is not the least: For, for Example, although *Clary* hath a Signature with the *Rhenish-Grape*, yet is its Quality of a more superior degree, for its Essence is more concatenated than that of the *Vine*, for a few Leaves thereof will relish other Juices with as much Taste as a whole Hogshed of the Vine's own Juice, as is manifestly known to all *Wine-Brewers* and *Distillers*; and therefore if you Design to make good Beer, or Artificial Wines, pleasant to tast, like the Natural, you must not over-dose the predominant Signature; for then you give it an unsavory one; therefore

fore where we have prescribed, in the Chapter of *Artificial Wines*, in the *Britannean Magazine*, the Juice or Water of *Clary*, one part to half or equal Parts of that of another Texture, there we mean the Juice or Water so artificially prepared, as not to exceed the Taste of that, which naturally proceeds from the Vine; this is to be observed in all Liquors whatever. And again, *Brandy*, as it is generally distilled from small Wines, Lees, sometimes pricked Wines, or those going to decay, variously mixed together, and so fermented with Stum, or some other artificial way, being Distilled, the Spirits come up friendly, and with a pleasant *Hogo*, and Balsamick Taste, for the various Flavours are so mixed as to moderate each other, for the same Reason given for Malt and Hops; for many of them are sourish before Distilled, and those moderate the exceeding Insoucousness of others.

Now our *Distillers* and *Artificial Rectifiers* have various Phantasies in the Imitation of the Flavours of *Brandy*, by rectifying from *Bay Salt*, *Bay Leaves*; others from *Orrice*, *Ginger*, *Arsmart*, *Pepper-Wort*, *Pepper*, *Clary*, and many others, there being hardly a *Distiller* but hath a different way to that of another; yet the exact Flavors to *Artificial Brandy* are wanting in this Land; there being three things absolutely necessary before you can in any degree come near it; that is, To bereave it of Mr. *Hogo* or the ill Tangué, and then to introduce the Tart and Raspberry Taste, intermixed; but here you must have a Body, whose Textures is proper to work on, for though we are able to perform much in this Case, nay more than what we have hitherto seen, and have mentioned the same in our *Britannic Magazine of Wines*, yet let us be rightly understood; For that those Spirits generally produced from Malt, have two Grand Defects,

Defects, the one is, 'tis filled with the Wild *Gass*, whence that *Hogo* or ill Tangué in great Measure proceeds. The other is, it wants that Balsam or Extract, which is in the *Wash*, and is given to the Swine, to be dilated by a due Decoction and Fermentation into the Body thereof, and then hath it something more substantial to work on, and therefore have we mentioned, and laid our Ground upon well-brewed Beer, and then that Distilled and Rectified, so as to be as free from Taste as Water, only Fiery and Spirituous; and then may you thereinto introduce some Friendly Flavours, which may be as agreeable to English Constitutions, nay more than that of *France*, because of its being produced from the Native Soyl and Climatory affinity: Now in this Case to make *Artificial Brandy*, we lay a greater Stress upon Cyder and Perry, for that, as we say there, excellent Spirits may be thence produced for the making *Artificial Brandy*; also from *Artificial Wines*, and especially those that are brought.

to the Taſt of the Natural ones: much may alſo be performed on *fine Goods, ſc.* the Spirit of Molasses, and eſpecially if you know the Nature, Preparation and Office of *Glauber's Sal Mirabilis*, *Paracelſus's Sal Enixum* or our *Sal Panariſtos*, which we have alſo there touched at, in the Chapter treating of *Artificial Brandy*, the which we ſhall hereafter more fully explain.

Thus we have intimated to you, how you may fit your Signatures according to the Predominancy of the Quality of that you joyn it unto, by adding ſmaller or larger Proportions, and have not only touched at the Manuring of Land, ſhewing by what 'tis bettered, but alſo ſhewing the Nature of Waters, and the Separation of the Wild *Gaſs*, and how Salt Waters are made Fresh, together with the making of Waters more commodious for the uſe of Families, as alſo the two different ways of Brewing, ſo that you may chuſe which you will, as alſo having touched at things commodious thereunto; we ſhall

shall now come to speak of the *Quintessence* of *Malt*, because therein consists many Mysteries, not only for the Nourishment of Human Kinds, but also for the restoring of Sick, Ropy, Sour and Decayed Beer to an Internal Sanity.

Now the *Quintessence* of *Malt* is the Vertue or purest Substance thereof, extracted and seperated from all Impurities; and therefore must it contain the Vertue of the whole, and be very beneficial, as is said, for the use predicted; therefore I wish the Preparation thereof were better known, for the which, that we may in some measure contribute our Mite, we shall instance the same as follows; there is one way which is the more excellent, which is, *to dissolve the whole Body by the Volatile Spirit of our Sal Panaristos, and then the Menstruum wholly seperated therefrom, and so have you the Quintessence or whole Vertue of the Malt entire; which will at any Time contribute Sanity to its own diseased Species, being rightly applied.*

E. 4.

Another

Another way is, *The Extracting of a good Aqua Vitæ from well-brewed Beer, and then the Gumous and Balsamick Substance from Good Sound Malt, and these united through the Medium of Nature, and so preserved for use;* for as an Ingenious Person observes, A small Dose of this preserves, and is far more excellent than abundance of that, wherein the Flegmatick Mercurial Vapour or Evil Sulphurous Quality or Saline Astringent one is predominant, for here the pure Principles are exalted, and brought to an homogenous Affinity, and so stand as a *Medium* to oppose any contrary Quality that strives for Predominancy in the Liquors or Juices that are prepared from that Subject, whose Essence this is; therefore have we commended that of Wines, in our *Britannian Magazine of Liquors*, for the curing of such as are Sick, Ropy and Diseased, as we do this here for Beer. We may also commend the *Quintessence of Metals* for the bettering of Metals; as also the *Quintessence of Man*, for the preserving his

his Health, which is the Spirit of the Blood and Bones united with the Mummial Balsam, the best whereof is that from the Deserts of *Arabia* (which every *Druggist* perhaps will tell you he hath) but be sure you have the right, if you expect to make the true *Quintessence*.

Now *Quintessences* are as much superior in Medicinal Vertues to the Subjects whence extracted, as the Superior and Celestial Orbs are to the Inferior and Terrestrial ones; but seeing we have more largely treated thereof in our *Ignis Astralis Adeptorum*, we shall omit it here, and so conclude this Chapter.

C H A P. IV.

In which we treat of Fermentation, the Ordering the Vessels, the manner of Tunning, and some Necessary Rules, whereby the Beer may be long preserved.

AS to the Doctrine of Fermentation, it is that which contains many High and Wonderful Mysteries, although the Word only imports a *Leavening* or *Working*, and *puffing up*, or more properly the *Ripening* or *Resolving* of a thing in order for *Maturation*; however, under this Head is contained the principal Matter of the great Eusiness both of Art and Nature; for as *Philalathes*, that Noble English Philosopher, saith, *it is the Wonder of the World*; being that, by which Animals, Vegetables and Minerals receive their Concretion,

tion, and without which it is impossible that there should be any Radical Union though of homogeneous Parts: For Nature first by Decoction prepares, and then by Fermentation ripens and maturates the same. Now as in Nature, so in Art for this tends beyond the Leavening, Heightening or Fermenting Bread and Beer, for no true Medicine can be prepared without the Knowledge of this Doctrine, therefore do we truly say, It is a Wonderful, High and Mysterious one: But having touched at it in our *Chymicus Rationalis*, and more largely treated thereof in our *Ignis Astralis Adeptorum*, we shall only treat of that part of it here which shall be pertinent to our purpose, *sc.* the Fermentation of Liquors; but we cannot omit of instancing this, That the Scriptures of Truth point forth the Verity of what we have here said, witness Christ's Words, *A little Leaven leavens the whole*: And it is the Nature of Leaven to Ferment so long, as till it hath brought the whole

whole Lump into its own Kind :
And seeing it is really thus , we
shall a little consider by what Power
this acts.

The Power by which it acts and is
acted upon is three-fold ; the first
and most principal is the *Aireal Life*,
as it begins to find it self opposed
by contrary Particles, which doth,
as it were, expand it self for its
own Defence , in opposition to its
contrary. The second is the *Inter-
nal Warmth of Sulphur* , which , as
we may truly say, is the Garment
and Defence of the said *Spirit*,
whereof if there be Quantity enough
to supply its Action , then doth it
never leave operating until it hath
accomplished the desired End, which
is a full manifestation of the Light,
Flowery , and Froathy Part of the
Principles, the majority whereof is
Sulphur , which lay diffused in the
Liquor and hindered the Maturity
thereof ; yet being elevated and
conjoyned , the Acid Fire therein
contained hath Power to perform
the

the like Action, even *ad Infinitum*:
Acid, we say, because as 'tis evident, Leaven and Barm soon sour, and it is from that, as we well know, that the very Root of Fermentation proceeds; for it is that which hath a contrary Action to the *Vinor Alkalizated Spirits*, in which Action it assembles together the Spiritous and Homogeneous Juices, making them yet more Spiritual; also precipitates the more gross and corporal Parts thereof, with the which if a Liquor be overcharged, the Spiritual and Homogeneous Qualities thereof will soon be eat out, either by some fresh Action, or other more invisible way; which is the reason that Wines and other Liquors are so often wracked off from the Lees: And it is observable, That as Cyder begins to be upon the fret, the best way to preserve the same, is immediately to wrack it off; but if you let the Fret get a height, it will be very difficult to preserve the same. The third is the *Moderate Warmth of the External Heat*

Heat and Air ; for if that stands not in a Temperament something Sympathizing with the Internal Action, the same is in great Measure obstructed, as is evident by the different working of Drink in Summer and Winter ; for the Nature of Heat is to agitate and stir up, but that of Cold to Stagnatize and Coagulate ; wherefore Fire and Heat must be used where Warmth is naturally deficient.

Now from hence we may draw this Consideration, *sc.* That the Internal Heat is of the greatest Importance, because that will work his way, except the external Quality be upon the extreme, as is evident in the difference between Strong Beer and Small ; the one Working and Ripening it self, when the other will not ; therefore we said, That Sulphur was the Garment of the Spirit, whereby it is preserv'd from the Extremes of Heat or Cold, by which its Activity is maintain'd ; and the External Extremes must be observed,

observed, in order to quicken the same Action; wherefore we set our *Backs* or *Tuns* colder in the Summer than in the Winter, and so vary accordingly, for the Heat of the Weather and Heat of the Wort would be two to one Odds, and Nature would always be fullen, where she is imposed on; you must wait her Motions, or else take her by the Hand, and lead her gently, if you expect to have your Desire answered; and blessed be the Lord our God, there is a Remnant acquainted with her mild and gentle Motion, and daily make it their Business to be more acquainted therewith; seeing it is she only, as centring in the Will of the Creator, that must reward us with Health, Riches and long Life, &c.

These things being premised, we shall now come to touch at that, which may in great Measure help us with some Artificial Fermentation, when that, by which the Natural is performed, is through an
imprudent

imprudent Use and Negligence found short and deficient.

Now, in this Case you must consider by what Qualities the Yeast acts, and so prepare a Ferment agreeable thereunto: The Old Country Wife helps herself much in this with Flower and Eggs; and some by that of Castle-Soap; but we by a Union and Spiritual Action of the three Principles, in such a way, that the Sulphur may be predominant; therefore we say, That if you have the true *Essential Oyl of Barly* so prepared, as just now hinted, you need not at any Time have any Deficiency or Shortness of Ferment, seeing it is durable, and a small matter thereof will supply your Want: Also the true *Quintessence of Malt* is not to be despised; nor the true *Quintessence of Wine*: For that by these many excellent Secrets are performed, but more especially, and above all doth our *Sal Panaristus* supply this Deficiency, in all and every part thereof, if it be but rightly used:

used: For as the Famous *Radolphus Glauber* says concerning his *Sal Mirabilis* or fixed Nitre, That if the same be with Flower thoroughly moistened with Warm Water, and set in a Warm Place, then, by its own proper Power and Vertue it begins to Ferment, especially if some fresh Hops be put to the Water, by which also other Things are promoted to Fermentation: This serves not only for Yeast for Bakers, but Brewers may also thereby help themselves, for by it Wort may be excited into Fermentation; and the more highly our *Sal Panaris* is exalted and purified, the better doth it perform this Operation, as being more endued with the Spiritual Action of Fermentation; therefore are we now labouring to produce it in such Quantity, as may be sufficient to give Demonstration of its wonderful Vertue, to the most Ingenious Enquirers of Art. Many excellent and profitable Truths are in the Art of Fermentation, which being more largely treated of in our *Britannicarum*

tannean Magazine, we omit it here, and come to the other Heads as follows.

Now the Way, which Experience shews to be the best, to order your Vessels for the Preservation of your Beer, is as follows; You must not at one Time scald them, and at another Time wash them with cold Water, for that is the direct course to make your Beer get a Tange of the Vessel; for the Scalding of the Vessel, as you call it, doth not so much wash away the Smell of the *Tilts* and *Grounds*, as it attracts and stirs up the Gummous, Rasomous and Oleous Part of the Wood unto the External Pores; and as that finds something to operate with, it must be doing, then doth it give an hidden Ferment, and cause the Beer to receive the Effects of that Tange; for Nature is never one Moment idle, but will be doing, even when deprived of its Original Form, and the

the Activity of the vivifying Spirit therein, as is evident in the Wood of Dead and Corrupted Trees, yea where the Life of its Vegetation is totally destroyed, for there by Fermentation and Putrefaction Worms are generated ; which evidently makes good what we have said. We also see, That after the Death of Human Kinds, yea while the Body is rotting and Food for the Worms, that the Hair doth yet grow, whilst it hath any Moysture to succor it, which although Excrementous, yet doth it vegetate ; and so would every Form be doing something, although it destroys a far more pleasant one, as Beer is destroyed by the Tanguie of the Cask.

In *Holland* they seldom know the Effect of this evil Tanguie, for that the Cask hath one Head taken out by the Brewers Servant or Cooper, and so brought to the River, and there with a Broom well washed, and every Chink thereof rubbed with a Brush, and then set an End, to let

let the Water run away ; and some rub them with Hop leaves, that come out of the Wort, and so Rince them again ; then being dried in the Air, and headed, they take a long Piece of Canvis, and dipping it in Brimstone they make Matches thereof, and with a few *Coriander Seeds* they set Fire thereunto, and opening the Bung they let the Match burn in the Vessel, keeping in as much as they can of the Sulphurous Fume by laying the Bung lightly on, and when the Match is burned they stop all close for a little Time ; then being opened, and coming to the Air, you find your Cask as sweet as a Violet, for the Acid and Sulphurous Spirits have carried off all the Corruptive and Volatile Particles, and bound and constringed the more Solid and Sulphurous ones ; Sulphurous, I say, because the Wood burns like a Candle by reason of its Oily Fatness, for Sulphur is the Fiery Fuel of Wood and Coals, as Oyl is of a Lamp, for the Wet Mercurial,
and

Saline Properties extinguish Fire, as is evident in the Difference between Extreme Wet Wood and Dry. This plain Position brings me to consider, By what Power and Action Trees subsist, living in the Winter, when they are deprived of their Flourishing Greenness. There be Various Opinions concerning this Point: It is the general Vogue, *That the Sap and Essential Vertue of the Tree doth, as the Cold Approaches, fall down and retreat into the Root; and at the return of the Sun in the Spring, elevate itself again, to replenish the Tree in all and every part thereof:* But Culpeper, being a Man of a sharp Wit, thought he had fully comprehended this thing, and so went about the Confutation of this Opinion, by his endeavouring to shew, *That the Cold constringed and bound the Sap in every part of the Tree alike in the Winter;* saying, *It returned not to the Root, but called them Sap-mongers, who asserted the same.* Now our Moddler, having received from him this Notion,

tion, seems to impose a new Florish thereon, and yet defines not the same, so as to give Satisfaction to such as daily enquire into the great Business and Action of Nature.

For Nature hath a wonderful and most mysterious way of working, she performs her Actions by Volatilizations and Fixations or by a rarifying Circulation and Condensation, whence Maturation and Perfection; these being carryed on and aided both by the External and Internal Powers, as was before mentioned in that of Fermentation: So then we must consider by what Power she externally Rarifies, and by what Power she condenses, for as it is the Nature of the External Mercurial *Gass* to Bind and Constringe the Pores of Trees, Plants, &c. so is it of the External Heat, to mollifie and open the same, that so the Internal Heat may be admitted in its rarifying Sublimation, which works opposite Effects to that of the

the former ; for as the Internal, Mild and Mercurial Spirit doth penetrate and open, so doth the Internal Warmth of Sulphur congeal and ripen. Now seeing these are necessary to be touched at in all and every part thereof, in order to clear this Doctrine, we shall proceed as follows: First, in touching at the Office of the Sun and Moon External, and then of those Internal, which are the four principal Powers of Nature, whereby she accomplishes her End.

As to the External Sun and Moon, the one by the benignant Rays and vital Warmth of his Approach heats and illuminates that which the other by her Lunar Beams hath frigidified and constringed: We shall first touch at the latter, and so begin at the Winter. For as the Sun declines his Vigour in any Latitude, she is the more impowered there to shew her Activity ; for in the Winter Cold and Dismal, Hoary and Barren, Dumpish and Mournful are the

the Earth and Products thereof to behold ; for not only the Pores of its Superficies, but also of Trees, Plants, &c. are bound up and constringed with Cold, which is yet more and more, as that increases; then doth not only the *Central Sun* and *Arctius*, but also the Central and Vital Life of Beings contract their warming Sulphurs and oleous Fuel, in order to preserve themselves against the terrifying Powers of Cold; nay they set Centinals to keep them off from approaching their Tents, that so none may pass but what know the Word, for all things seek self-Preservation: By this means the Centre of the Earth and Internal Powers of other things are warmer in the Winter than in the Summer, as those Springs manifest, whose Waters in the Summer are cold in the Winter warm, even to a Vapour; and in this warmth an increase of Radical Moisture is made, from whence Putrifaction and Condensation in order for Vegetation, which is performed,

as the Heat of the Sun approaches, so as to open the Pores of the Earth, Trees and Vegetables, restoring their Barren and half-decayed Natures to their pristine Activity: Then doth the Central Fire again expand itself, shewing its Activity in Sublimation of Vapors, in which the Universal Spirit is attracted, and again rarified into that Oyly and Vital Fuel, which causes the increase of Trees, Grass and Flowers, being attracted in at the Roots thereof, ascending to the Body, Branches, Buds, Flowers and Fruit, which increases so long in Strength, as the external Heat hath Power to Act, or till the Form hath given an end to its determinating Power, for one Fire attracts another, so doth the Celestial Sun the Vapor of the Central one in this Action; so subtle is Nature as to attract and lay up Stores for her future Preservation: Hence it is, that the forming Sulphur congeals and maturates what is sufficient for the producing of

F Fruits;

Fruits; for these, standing in a *Medium* between the Central and Celestial, have the Benefit of both, we mean, the Specifying Power, given to Seed, in order for Concretion and Formation, for the Celestial Sun only attracts the Spiritual Vapor, which is the Vehicle for the conveying the nourishing Fuel to the different Forms; which Vapor doth, as it were, follow the Sun, as he passes through diversities of Climates, and hath his Active Power there, according to his preeminence in the Season and Revolution of his Motion, which is the Reason why Vegetation is at one Time here, another Time there, sometimes in the Northern, other-times the Southern part of the World; for the great God hath universally dispensed his bounteous Gifts to the whole Creation, it all being the Work of his Hands; and therefore in describing the Nature of Particulars, we must have some Regard to the whole, otherwise it may be performed

performed but defectively: Therefore we say, That this Vapor not improperly called the *Mercury of Life*, seing that therein Centrals and Celestials are united, without any Determination of Form, passes here and there in Search of the same, sympathizing with the Heavenly Motion, even round the whole Globe of the Earth, in order to cause Vegetation; the which is performed in every Place, so long as the external Heat hath Predominancy, but as that declines, so comes on the Lunar Effects, in producing the Winter: And this is the Office of the Celestial Sun and Moon, and the Reason of Winter and Summer in all Places.

Now as to the Internal, we a little before said, That the Property of these are something different to the former, by their seeming Opposite, yet harmonious Effects; for as the External Heat encreases and dilates the Pores of

Trees, Plants, &c. so at the same Time doth the Internal Cold, Congealed, Mercurial Spirits ascend, penetrating all Things, that have a Root in Nature, in Order to cause their Vegetation, which is accomplished by the more Sulphurous Warmth, following the same as Fire doth Smoak, these being the Fuel and nourishing Vertue of the Seminal Powers; yet is it but the light and undetermined Form, which as it nourishes the Seminal Vertue of the Tree or Plant is converted into its Substance, and then receives the Determination of Form, from the forming Power Originally given by the great Creator unto the Seminal Vertue therein contained; for that every thing was to increase and multiply by means of a Seed therein inclosed; and at the very same Time, that the External Heat is busie to dilate, the internal Warmth is ready to contract, and as a Male, acts in the Congelation of that Moisture, in order that it may get a more Substantial

stantial Nature for Increase; also for Strength and future Nourishment to the real Substance thereof; that so it may defend it self against the extreme of Cold.

Hence we conceive, That while the internal Spirits are ascending by Sublimation, which continues so long as the External Heat assists the same, all this while is Nature building herself a Nest, and Antlike, providing her Food against Winter; one Part she converts into Bark, another into Wood and Substance, another into Fruit and Seed, by which means the subtilized Spirit that ascends, is so exhausted in order to preserve the Species, that it hath none to spare for a dejection, and as little for a Congelation into Sap; for the Sublimation of the Vapor ceases and the Bottle is then stoped, and had it not an internal Nourishing Seminal Balsamick Sulphur, to preserve its Strength, it were impossible for it to subsist till another Supply, Succour, or new

Sublimation of Vapor ; and had not the Internal Heat dryed up and corporified the said Moisture, 'twere impossible that the subsisting Strength should be so upheld in Nature as it is even in the Deficiency of the Benevolent Rays of the Vivifying and Celestial Sun ; but it is very evident and agreeable to the Laws of Nature, that Driness and internal Warmth should concentrate, so as to give Durability, in that those, which are Moist, Green, Young and Tender in the Winter, easily Dye and Wither ; nay most Vegetables creep their Heads into the Earth for Warmth, as the Stork flies to another Climate : Hence it is evident, That the Sap is not congealed in the Nature of Sap, which is the Chylous Juice of the first Action ; but as the Chyle of Man's Body is by degrees of Concoction, Fermentation, Digestion and Exaltation converted into the Substance of Blood and Nervous Juices, &c. so is this into a more Corporal Balsam, nay even as was said before, into the real Substance of the Tree itself : Hence it is,

is, and for want of a fresh Supply of Vapor, (by the Radical Fermentative Union of both which the Sap is again produced) that the whole Tree in all its parts is abundantly more dry in the Winter than in the Summer ; and were the Sap congealed in the Tree, as some suppose, then certainly would it contain Moisture sufficient to succour and nourish itself another Year for Vegetation, without a Supply, which Experience positively contradicts : For if in the spring the Vapor is obstructed in returning to shew its nourishing Vertues, the being thereof so deprived becomes as the off spring of the Dead, for it hath been for this Season only preserved by the Magnetick Power of the *Polar Axis*, and by having Root in the Earth, where the Internal Warmth is, and from the Strength obtained in the Season from the maturing Sulphur, Central Fire or Internal Heat, which, as is all-a-long said, gives Strength and Maturity to Beings for the Winter-Season, which is compared to the Hoary Head of

Old Age, wherein the youthful Strength and Vigour is spent; therefore Trees yearly renovate, as hath been touched at, for it is manifest that Trees in their Vegetative Season are full of Sap, that they will scarce or not at all burn; whenas they will in that of the contrary freely do it; and though Moisture sometimes proceeds from dryer Wood burned, yet is not that so much the Sap, as the Principles broken by the Violence of Fire, and a Vineager mostly proceeding from the Sulphurous Quality, seeing the same may artificially be produced from the driest of Coals: Thus have you the general Office of the Celestial Sun and Moon, as also of the Terrestrial and Central in producing and maintaining the Vegetative Power and Strength in Trees, Plants, &c. whereby it is plain that the External Heat opens, and the external Cold congeals, & *vice versa*, that the Internal Mercurial Spirit Dissolves, but the Internal Sulphurous one coagulates; therefore is it, that in our Opinion it is most proper to use Cold Water, because

cause that External Heat is apt to stir up the Internal one, and if that have not some Artificial Check, it will presently work some evil effect; therefore do we advise, That the Fumes of *Sulphur*, as also the *Distillers Wash*, be used to sweeten, where these Rules have been neglected; because it is full of that Gum, which allatiates the other's Thirst.

Now as to tunning, there be various manners used by most or all Brewers, one being of Opinion, That it is best tunned, as it curles or begins to come; another lets it be yet more ripe; but we say it is best to Cleanse and Tun just as the Beer comes to a due Ferment, and gets a good Head; for then it hath the most Strength to cleanse itself in the Cask: And you may observe, That what works over must be again supplied with Fresh Beer of the same Brewing; the Workings may be added to your Small-Beer, or else to your Barm, and let the clear run through a large *Hippocrates Sieve* or
 F 5 Flannel.

Flannel Bag, made in Form of a Pyramide, the Point being downwards, with a Hoop at the Top, hanging the same over a Tub; and if you have great Quantities of Cleansings, you may in a large Brewing get a Barrel of Beer.

Now things being thus ordered in Fermentation, Cleansing the Vessels and Tunning, it may be a great means for the preserving of the Beer: But however, *Fixed Niter* is as a sole Preserver, for it keeps the Beer from any Fret or Unnatural Ferment; nay it will restore Decayed Beer unto its pristine Vigour, as will be seen in the next Chapter; therefore do we conclude this and proceed to that.

C H A P.

C H A P. V.

In which we shall treat of Clearing of Beer, and restoring such as is Sour and Decayed, so as to render it drinkable.

THe ways of clearing of Beer are many and various; but the best thing to make it very Fine is *Fixed Niter*, as also the *Quintessence of Malt*, and of *Wine*; for these, being Spiritual, render it also Clear, Thin and Spiritual, and preserve it; *Whites of Eggs* being made into Balls with a little *Flower* and cast into the Beer, do wonderfully Cleanse, Feed and preserve the same, especially if you add a little *Izing-Glass* thereunto. The Experience of the *Oyl of Barley* essentially made gives wonderful Satisfaction in the Feeding and Nourishing of Beer, seeing that, as all other things, requires nourishment
to

to preserve its Being. The *Quintessence of Barley* doth also wondrously Nourish and Strengthen Beer. It is also Cleared and Strengthened, even to such a degree, as that it may be called *Beer Royal*; which is by adding into it in Fermentation some Burning Spirit, which doth not only clear the Beer, but also add Strength and Durability thereunto, making it fit for Transportation to any Part of the World, far beyond that of *Double Beer*, for the same Reason as is rendered in our *Britannic Magazine* for *Vinum Fortificatum* or *Syder Royal*.

Now Beer thus ordered seldom or never sours for many Years, but if it should not be so ordered but come to sour, we must look for a Remedy to recover the same; and this may be performed by some *Alkalized Nature*, which imbibes the Acidity by Precipitation, and frees the Liquor therefrom: Of this Nature is the Salt made from the Ashes of Barley Straw, being put in the Vessel and well stirred. *Glauber* commends three or four
Handfuls

Handfuls of Beech-Ashes, being thrown into the Vessel after the same manner, or if be not too very sour, a little put in a Bag, without stirring performs the same. Chalk being put into sour Beer immediately renders it drinkable. Also Calcined Oyster-Shells, or Calx-vive, Egg-Shells burned, Tortoise-Shells, Sea-Shells, Crabs-Eyes, Alkalized Coral, for that they imbibe and attract the Sharpness, and turn it into Sweetness: Which also may in great Measure be performed by a Handful of Wheat being thrown into the Vessel; for this Sharpness proceeds from the want of Strength and Spirits, or else from those wanting something to feed on: And therefore do we commend the true Alkalized Quintessence of Malt, not only for returning Sour Beer Sweet, but also for the Feeding and Nourishing such, as is Sound, for its future Preservation. Glauber wonderfully commends his *Sal Mirabilis*, and *Fixed Niter*, to be put in a Linnen Bag, and hang in the Top of the Cask, so as to reach into the Liquor, not only for rendring Sour Beer Drinkable, but also

also for Preserving and Strengthening the same.

Thus having given you the Grounds and Reason, whence Fermentation proceeds, and how the same may be reasonably exalted or prevented; and how Beer may be preserved from Souring, as also how measurably to recover the same, when so, by such Rules and Examples, as may enable you to prescribe others, and make your Variations as need requires, we think it sufficient; and therefore proceed to other Requisites.

CHAP.

C H A P. VI.

In which we treat concerning the making of several Physical Drinks, together with their Use and Vertues: Shewing the right way of Bottling Beer.

AS to the Ways of making Physical Drinks, they are various; some being made from Herbs, others by the Spirits thereof exalted, others by their Essential Salts and their Essences exalted, which indeed is the most superior Way; but seeing that every Brewer and good Housewife cannot obtain these, we shall prescribe such, as be of more easie Preparation.

We see that Beer made from Cypress, Cedar, Sassafrax, Wormwood, Scurveygrafs, Elder, Mint, Balm, &c. are highly esteemed, especially Purle
and

and *Scurvygrafs*, here in *England*: But here is one thing which I cannot omit, which is this, they take the Herbs at any Season, with the Gross and more Vertuous part together; and put these into Low, Weak, Sick, Defective or Prick'd Beers, and so the Taste of the Herb overpowering the same, they think it sufficient, the Pallats of the Drinkers being pleased, not minding whether they answer the End desired, *sc.* the contributing something to the Health of their Drinkers, which they cannot thus do, seeing they want that Internal Sanity themselves, which should perform the same. Now seeing it is not only this, but much more, which might be said of the like Nature, we shall recommend three things to the Consideration of every Honest Brewer, whereby this Defect may in great Measure be Repaired and Supplied: The first is, if you design to make any sort of Physical Beer, let your Wort have a Sound Body, well wrought, and settle three Days, and while it hath yet a more
Invisible

Invisible and Secret Fermentation. Secondly, that you only add in the Tops and choice Parts of such Herbs as are design'd for the same. And thirdly, That those Herbs lie not so long therein, as that their Spiritual Qualities may be so much exhausted, that their Terrene ones by the Beer or Liquor should be extracted; therefore they ought to be well pounded and macerated, and in a small Bag put into the Cask, that so after their due Time, which may be at the most twenty Days, they may be taken out again. These being observed, you may make excellent Beer or Drinks, fully answering the End of their Preparation. Also instead of such Herbs as are naturally juicy, you may add in the Juice thereof; if *Elder*, let it be about two Gallons to a Barrel of Strong Beer; but if the Juices are Stiptick, Eitter or Astringent, then will a smaller Quantity serve. You may also have most excellent Physical Ales, by adding the Spirits of the Concreats truly prepared, about thirty or forty Drops, more or less, according,

according to their Strength, into a Glass of Beer: The True *Spirit of Salt* is an excellent Preserver unto Human Bodies, being taken ten or twelve Drops after the same manner: *It cures the Scurvey, resists Putrifaction, &c.* Also eight or ten Drops hereof being dropped into a Quart of New Beer, makes it immediately tast Stale, and renders it drinkable. But above all doth our *Spiritus Odontogias* perform this, as you may see at large in the *Britannian Magazine of Wines*.

Now if you have a mind to have any other Variations, in making divers Physical Ales, then proceed thus; Make a Syrrup of the Herb, and put two or three Spoonfuls thereof into the Ale or Beer in Bottling, and a Spoonful or two of the Essence, whether it be *Oranges, Lemons, or Scurvygrafs, Cypress, Wormwood, Mint, Balm, or the like*: And if you practise this, your Experience will prompt you beyond Words.

*A Compound Physical Ale, good
against the Scurvy, Dropsy, and
other Diseases.*

R. **O**F Scurvygrass one Peck, Water-Cresses twelve Handfuls, Brooklime six handfuls, English Rhubarb six ounces, Horse Radish four ounces, Anniseeds and Caraway Seeds of each one ounce, Sweet Fennel one ounce, Sena one ounce, Polipody of the Oak four ounces, Railins stoned and Lent Figs, of each eight ounces, New Ale five gallons; make it *S. A.*

A good way for the Bottling Beer.

IN the first Place take a little clear Water, or else such as is truly impregnated with the Essence of any Herb, and to every Quart thereof add half a pound of *Mevis Sugar*, and having very gently boyled and scumed

scummed the same, adding thereunto a few *Cloves*, let it cool, fit to put Barm thereto ; and being brought to work, scum off the same again, and while it is in a smiling condition put three spoonfuls thereof to each Bottle, and then filling up the same, cork fast down. A few *Christsals* of *Tartar* also do well in Bottling Beer, adding a few Drops of the *Essence of Barly*, *Essence of Wine*, or some other *Essential Spirits*. Accept of this (Courteous Reader) until Opportunity shall admit us to oblige you with things of a more Sublime Nature.

Postscript.

Postscript.

IN this Treatise, having spoke of Waters in general, laying down Rules sufficient to inform any reasonable Man of their Nature and Preparation, yet I think it may not be amiss to add a few Words as a Review of the whole, that is, how Waters are altered by the Accidental Qualities, as well as by the Natural ones, and from such things that superficially impregnate the Water with something contrary to its internal Texture, that is, it purges itself therefrom once, peradventure, in a Natural Day by its being ponderous, it joyns with the earthy Qualities in the Water, and so precipitates and washes away ; but however if it

it is constantly impregnated with such Heterogeneities, it much alters the Purity of the Water, and makes the Time very uncertain: When we take it purged, or when its Body is filled with the said Impurity, and so one and the same Water shall variously alter in the manner of Decoction and Fermentation, being taken at various Times. You have an Example of this in *Thames*-water, a pure and fine River, originally proceeding from a Spring, being fed by the influx of many small Rivulents, and so increased to such a magnitude, as it is so navigable, that it challenges many of the *European* Rivers appertaining unto the Metropolitan Cities; but however it hath these Inconveniences, as others have also, for being near so great a City, it receives the Common Shores, and from its adjacent Banks various Excrementious Things, as Dung, Urin, Fish-Bones, Diers-Liquor, Soap-boylers Drugs, the Butchers Corruptions, and many other Sulphurous, Stinking and Slimy Things, which wonderfully alter the Water,

Water, so that sometimes, especially if taken in the Time, when it is not purged, the Wort will not bear boyling, but becomes thick, and will not kindly Ferment, and so drinks flubby, unpleasant, and shews the like Effects, for it will soon Sour and Corrupt; so that many, who use the *Thames* Water, are afraid to boyl their Liquor or Wort sufficient, because it will grow thick, and this by them is generally observed, but the reason thereof not conceived: For other Times the Water being taken, when it hath purged itself, it may be boyled with the same Success as other Waters, and the Beer or Ale will be very Clear and Durable, drinking Brisk and Pleasant: The wonderful Difference of Beer and Ale, brewed from the *Thames* Water, is not unknown to many of the Curious observers, neither is the Reason thereof so obscure, but that it may be easily comprehended; seeing Water is the general Menstruum, taking in the impure as well as the purer Natures, even after it is in a measure allatiated

affatiated with the Elixeration of the Malt; for how many different Savors may be impregnated in the Wort, from whence the various or different Relishes to Beer or Ale proceeds: For if we add but a few Coriander-Seeds, gently infused in a small quantity of Wort, and afterward wrought in the whole, it will make it drink like Chinay-Ale; and so if you add an Ounce of the Powder of Orrice into a Quart of new Drink, gently infused, and then add that to a Barrel, it gives it the Relish of the Rastberry, adding vertue thereunto; for this Reason do we advise you to add six or eight Ounces of Ginger, and as much Orrice to an Hogshed of Strong Wormwood; and then you will enrich it so, as two or three Spoonfuls will be sufficient for a Quart of clear Drink, having Vertues also equal with the smalness of its Dose. Likewise Black-cherries, Elder-berries, Rasberries, &c. being added, make excellent and vertuous Drinks; nay how many Physical Ales may be made
by

by Simple and Compound Infusions ;
 but seeing this is so obvious to all, that
 impregnation of different Idea's gives
 a different Alteration of Vertue, ac-
 cording as they proceed from a pure
 Root, but the contrary if they pro-
 ceed from an impure one, as is mani-
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